DOCUMENT RESUME

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ABSTRACT

This document contains resumes of more than 100 programs and projects of the National Laboratory on Early Childhood Education during 1968-1969. The information given for each program or project includes the title, principal staff, objectives, justification, design, characteristics of users, expected end products, evaluation procedures, relationship to other projects, time schedule, and linkages. Resumes are presented under eight headings: National Coordination Center, ERIC Clearinghouse, Arizona Center for Early Childhood Education, Chicago Early Education Research Center, Cornell Research Program in Early Childhood Education, Kansas Center for Research in Early Childhood Education, Peabody Demonstration and Research Center for Early Education, and Syracuse Center for Research and Development in Early Childhood Education. (JMB)

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PROGRAM
AND
PROJECT/ACTIVITY
RESUMES

NATIONAL LABORATORY
ON EARLY CHILDHOOD EDUCATION

1968-1969

PS 008576

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NATIONAL COORDINATION CENTER

70706-N

Number	Program, Project/Activity Title	Principal Investigator
N-A	Research and Development Coordination Program	James O. Miller
N-B	Intra- and Extramural Collaboration Program	
-BA	Identification and Program Analysis of Extramural Instrumentalities	Myrtle M. Scott
-BB	Planning and Development of Collaborative Activities Between the National Laboratory and Extramural Instrumentalities	Myrtle M. Scott
N-C	Communications Network	
-CA	Information Analysis	Brian Carss
-CB	Communication's Link (COMNET)	Brian Carss
N-D	Material and Human Resource Development Program	James O. Miller
N-E	Funding and Fiscal Management Program	
-EA	Reporting Procedure	Joseph Smoltz
-EB	Accountability of Funds--Activity 1	Joseph Smoltz
-EC	Request, Allocation, and Reallocation of Funds	Joseph Smoltz
-ED	Fiscal Review	Joseph Smoltz
N-F	Program Planning and Management	James O. Miller

NATIONAL COORDINATION CENTER

N-A

Title: Research and Development Coordination Program

Principal Staff: James O. Miller, Terry Denny

Purpose, objective, or goals: To stimulate, facilitate, and support a focused programmatic research and development effort in the field of early childhood education and development. The system and procedures which are designed to maintain this endeavor will include a continuous analysis and evaluation of the existing and present status of knowledge, stimulate and generate research and development efforts and maintain a continuous program analysis and evaluation. Such analyses will provide the basis for developing criteria for allocation of research and development funds.

Importance, need, or justification: The activities and projects in this program are designed to stimulate research and development efforts in the various component centers by providing selective, substantive summaries of the research and programs in existence. Such a knowledge base will be used for long range planning, to fill knowledge gaps, to provide the basis for intervention strategies and shape the development of materials and devices for early childhood education. The program must have internal as well as external means of evaluation of both product and process. Thus, this program is at the core of the National Laboratory effort.

Method, strategy, or design: The strategies involved include commissioning field resources, promising investigators and acknowledged experts for the production of summary and evaluative papers on existing research and educational programs in the field of early childhood education and development. The Steering Committee, as the policy making body of

Method, strategy of design (continued):

the National Laboratory, will be used in screening and evaluation of summary analyses. Specifically: the research synthesis and summary of program literature research and development center resources will be enlisted; new and promising investigators will be identified through dissertation analyses; specific topics will be identified and senior scientists will be asked to supervise the preparation of review papers. Registers of programs, publications, and products will be compiled and an analysis of the present work in the research and development centers will be made from them. This analysis, in turn, will be used for planning purposes, distribution of work, dissemination purposes, and a briefing document for developing fund allocation criteria. A comprehensive system for review of the National Laboratory program will be designed and implemented using planning consultants where necessary. The system will be sensitive to planning needs and will provide for evaluation at critical decision points. Decisions will be made by Steering Committee in consensus on work load and work sharing of the research and development components and on commissions outside the laboratory complex.

Characteristics of the users:

The program has as its target population all the components in the National Laboratory complex.

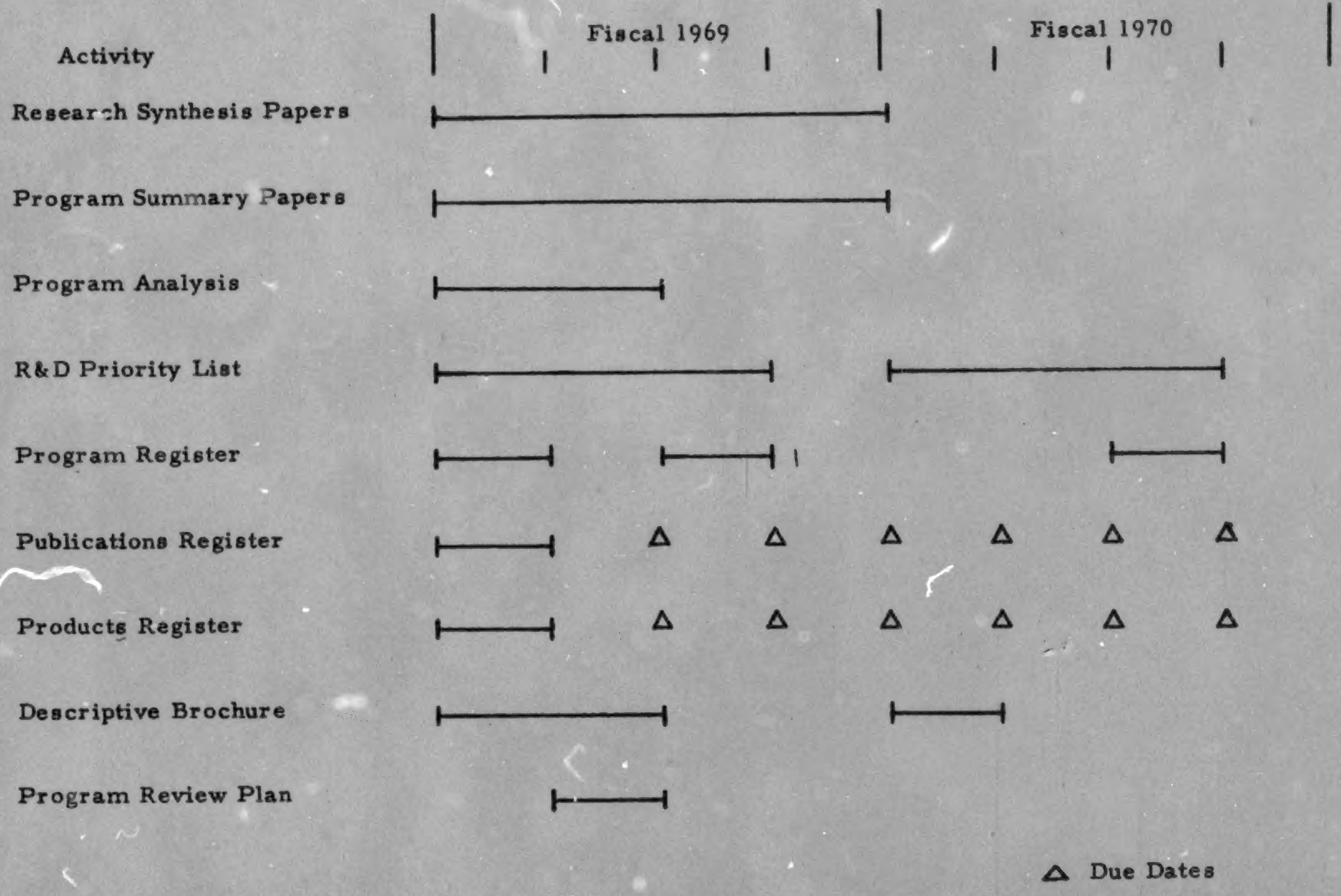
Expected end products of results:

1. State of the art papers in selected research and program areas.
2. Report on laboratory program analysis with appropriate graphics.
3. A priority list for fund allocation based on objective criteria.
4. Registers of programs, publications and products, and a descriptive brochure of the National Laboratory.
5. Comprehensive plan for program review.

Evaluation Procedures:	Evaluation of substantive papers on research and programs will be made by the Steering Committee in conference. Use of these documents should be apparent in program planning and markers will be identified. The system of program review and evaluation will be reviewed itself by the Advisory Board and the U.S. Office of Education.
Relationship to other projects and focus:	1. Analyses and evaluation of research and program papers, the program analysis, the programs, publications and products registers are inputs to the Communication and Collaborative programs. 2. Program analysis, evaluation plan and evaluation criteria for fund allocation will be inputs to the Management and Funding programs.
Flow chart, time schedule:	Attached.
Linkages:	Programs, publications, and products registers are directly related to the program analysis and become inputs to the evaluation plan; the registers and programs combined with the research and early childhood education programs analyses and summaries are inputs to developing research and development products.

ACTIVITY AND PROJECT TIME SCHEDULE

Program: Research and Development Coordination



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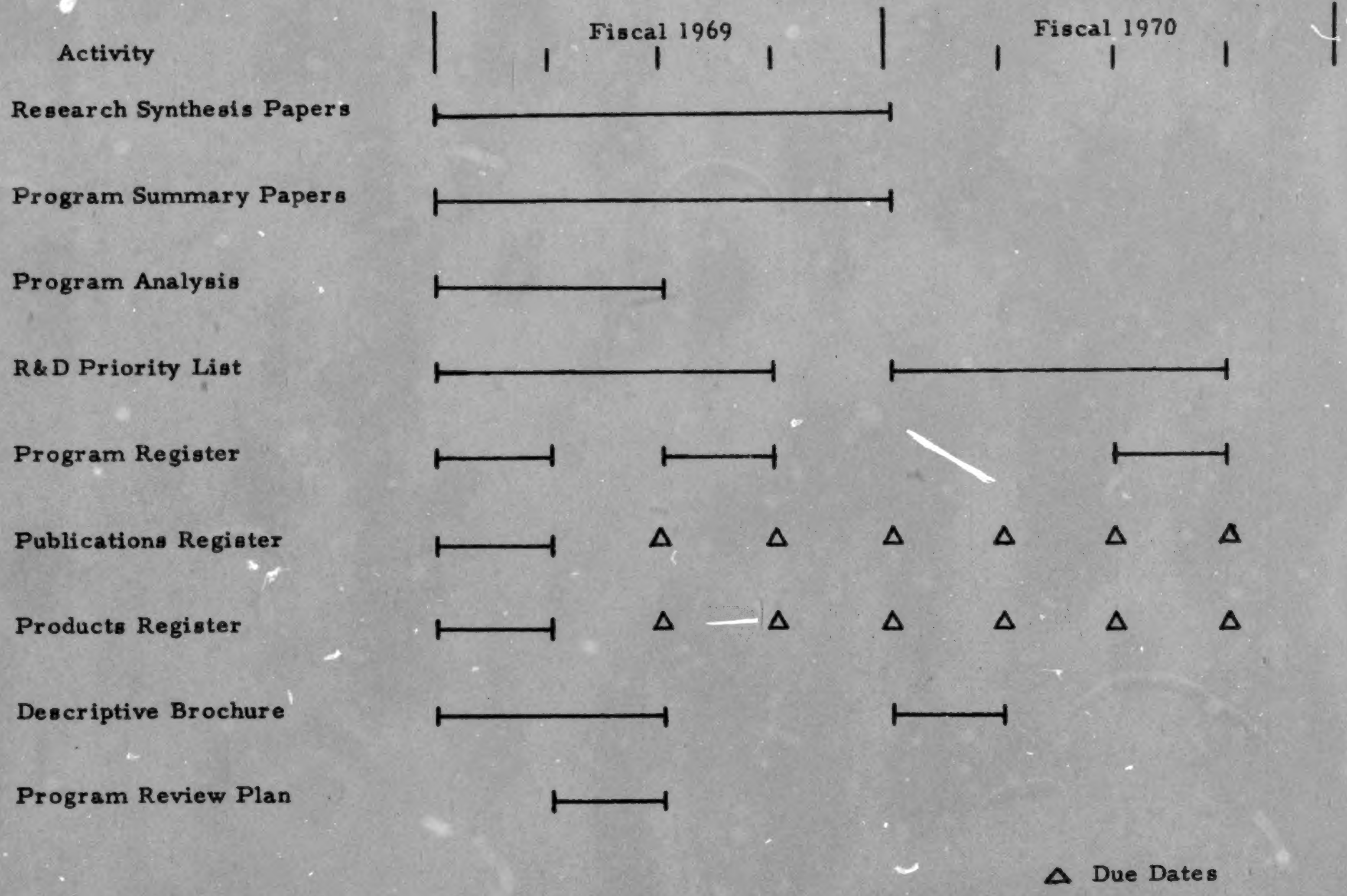
ACTIVITY AND PROJECT TIME SCHEDULE

Program: Research and Development Coordination



NATIONAL COORDINATION CENTER

N-B

Title: Intra- and Extramural Collaboration Program

Principal Staff: C. B. Lavatelli, M. M. Scott, J. O. Miller

Purpose, objective, or goals: To develop and implement procedures and mechanisms for establishing effective collaborative arrangements within the National Laboratory and between the National Laboratory and other instrumentalities.

Importance, need, or justivication: The organizational pattern of the National Laboratory is designed to create enriched collaborative research and development opportunities between institutions with a variety of populations geographically distributed throughout the United States. Collaborative work in itself should help to strengthen the ongoing research in research and development centers, while an active program to highlight collaborative possibilities should stimulate interest in problems not presently being researched in any of the centers.

Method, strategy, or design: Internal collaboration. The strategies involved include:

1. Use of the program analysis to identify common research problems around which collaborative efforts might center.
2. Planned conferences of senior investigators to design collaborative research efforts on selected topics.
3. Selected mailings of information relative to collaborative efforts of those researchers participating and others specifically engaged in related research.
4. Preparation of annotated bibliographies out of fugitive materials in which collaborative efforts are being undertaken.
5. Steering Committee discussions and decisions regarding pressing problems which need collaborative effort.

Method, strategy, or design (continued)

External collaboration.

1. Survey and identification of researchers presently engaged in early childhood education research for the preparation of a catalogue. This catalogue will be used for consultant identification and initiating the exchange of working papers, preprints, and published documents.
2. Analysis of early childhood education programs under way and supported by various federal agencies, in order to initiate communication and develop collaborative arrangements.
3. Selected visitation of the most promising instrumentalities which can share in the work load at field testing and evaluation points to develop instrumental liaison.

Characteristics of the users:

Internal: Senior investigators from National Laboratory research and development centers.

External: Independent investigators, other funded instrumentalities such as Regional Laboratories, etc.

Expected end products of results:

1. Preparation of a paper for circulation on common research problems.
2. Senior investigators conference report with collaborative research design.
3. Annotated bibliography of fugitive materials.
4. Catalogue of active researchers.
5. Report on analysis of funded early childhood education programs in other agencies.

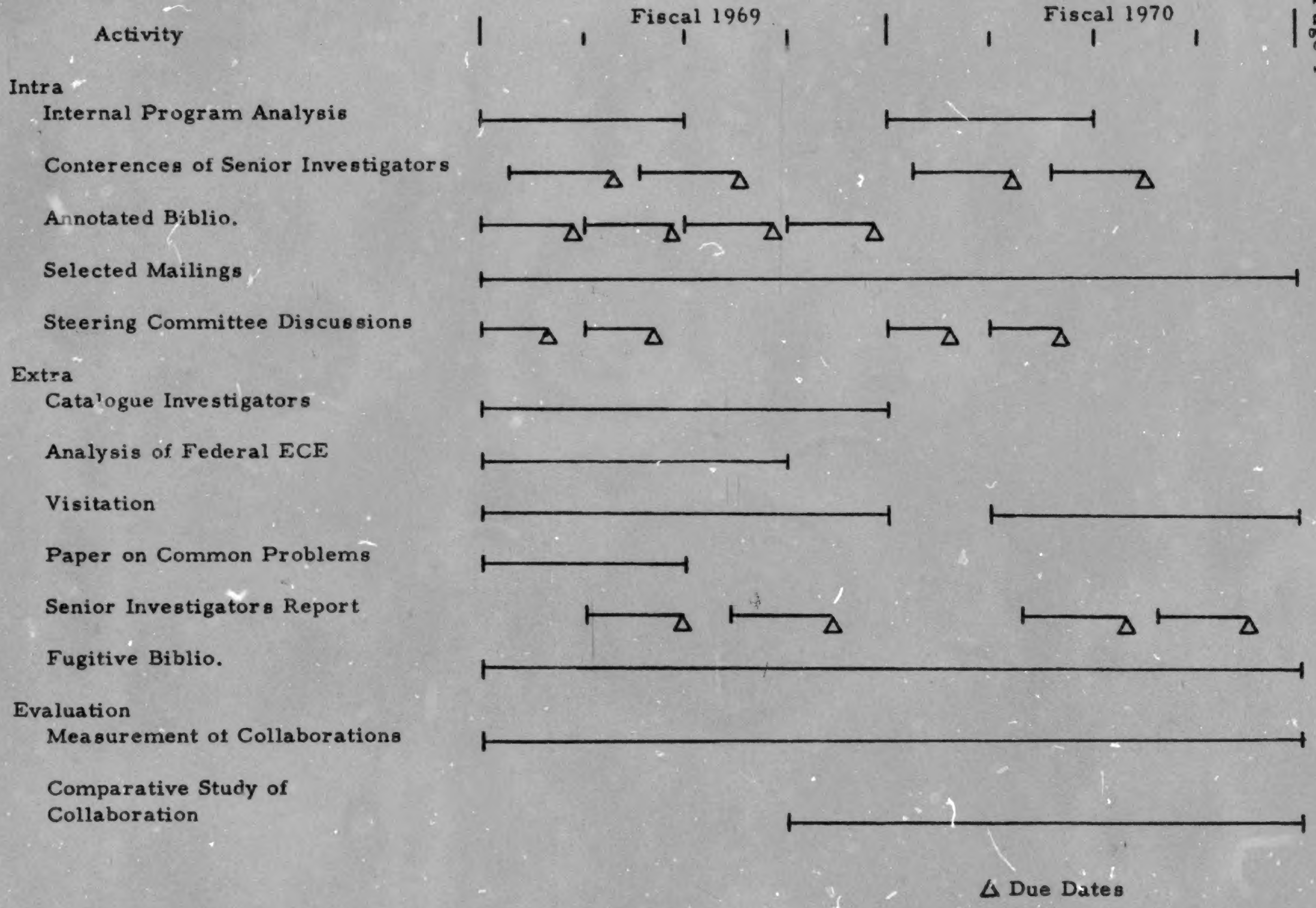
Evaluation procedure:

Evaluation will be primarily of the number and kind of collaborative efforts which are generated. A study is underway of the measurement of collaboration and cooperation and it is expected that measures may be taken at three different levels which vary along a participation continuum. The input of identified

Evaluation procedure (continued)	independent investigators to the communication network will also serve as evaluative markers. In order to look more systematically at the effectiveness of collaboration, a comparative study is in planning which will examine the basic assumptions underlying collaboration.
Relationship to other projects and focus:	Both internal and external collaboration arrangements should strengthen the research and development program. The end products should be useful to the Planning and Management Program, Resource Development Program, and the Communications Network.
Flow chart, time schedule:	Attached.
Linkages:	As stated in the Methods section, the activities are listed in sequential order.

ACTIVITY AND PROJECT TIME SCHEDULE

Program: Intra and Extramural Collaboration



NATIONAL COORDINATION CENTER

N-BA

Title: Identification and Program Analysis of Extramural Instrumentalities

Principal Staff: M. M. Scott

Purpose, objective, or goals: To develop and implement procedures and mechanisms for establishing and maintaining an investigator register of persons and groups external to the National Laboratory who are working in research in Early Childhood Education and to develop and implement procedures and mechanisms for a systematic analysis of these activities.

Importance, need, or justification: Cooperation and collaboration are integral assumptions underlying the basic organizational pattern of the National Laboratory itself. In order to maximize the R&D effort and in order to make more efficient use of research energies and monies available, viable cooperative relationships with other persons and groups working with young children is deemed essential. A logical first step in the establishment of such relationships is the identification and analysis of Early Childhood Education programs external to the Lab.

Method, strategy, or design: The strategies involved include:

1. Development of a catalog of investigators by
    - a. designing a format for such a catalog
    - b. obtaining vitae already available and using these for a trial run through the format
    - c. identification of all potential registrees through use of program and project descriptions, directories, etc.
    - d. obtaining up-to-date information on each investigator

NATIONAL COORDINATION CENTER

N-BA

Title: Identification and Program Analysis of Extramural Instrumentalities

Principal Staff: M. M. Scott

Purpose, objective, or goals: To develop and implement procedures and mechanisms for establishing and maintaining an investigator register of persons and groups external to the National Laboratory who are working in research in Early Childhood Education and to develop and implement procedures and mechanisms for a systematic analysis of these activities.

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Method, strategy, or design: The strategies involved include:

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    a. designing a format for such a catalog
    b. obtaining vitae already available and using these for a trial run through the format
    c. identification of all potential registrees through use of program and project descriptions, directories, etc.
    d. obtaining up-to-date information on each investigator

Method, strategy, or design (Continued)

e. compilation of the data and production of the catalog
f. selected dissemination of catalog
g. maintenance of the catalog in a current status

2. Development of a systematic analysis of all ECE programs and projects external to the National Laboratory by
   a. designing a format of analysis including selection of relevant variables for study such as topic areas under investigation, population and sample characteristics, staff involved, monies allocated, etc. (This format will be designed so that it will have maximum meshing with the retreival systems of all other National Lab components as well as the ERIC Clearinghouse.)
   b. detailed study of program and project descriptions using the developed format
   c. selected visitation to instrumentalities showing the most promise
   d. compilation of data and further analyses across programs along whatever lines emerge as pertinent and relevant points of common endeavor.

3. Preparation of a paper delineating areas of common endeavor, mutual research problems, areas where needed research is lacking, etc., and identifying critical collaborative areas.

4. Continuous reassessment of the needs and efforts of the field via continued program analysis in order to maintain in current status the identification of critical collaborative areas.

Characteristics of the users:

Coordinator of extramural activities. Investigators thoughout the National Laboratory as well as groups involved in ECE research external to the National Lab such as directors of Regional Educational Labs, R&D Centers, etc.

Expected end products of results:

1. Catalog of investigators.
2. Program resumes of all ECE programs analyzed.
3. Paper summarizing common areas, problems, etc., and identifying critical collaborative areas.

Evaluation procedures:

1. Evaluation of the identification studies will be primarily by number of investigators identified and percentage who respond to biographical requests of the register. Number and kind of requests for the catalog or its information will also be kept. Some attempt to evaluate the qualitative nature of the catalog will be made by calculating the percentage of requests which the catalog is able to answer successfully.

2. Evaluation of the program analyses may be done by calculating the percentage of requests for information which the resumes from such analyses are able to answer successfully. A second measure of the qualitative aspects of the program analyses and subsequent report may be found in the number of collaborative studies which they are able to stimulate.

Relationship to other programs:

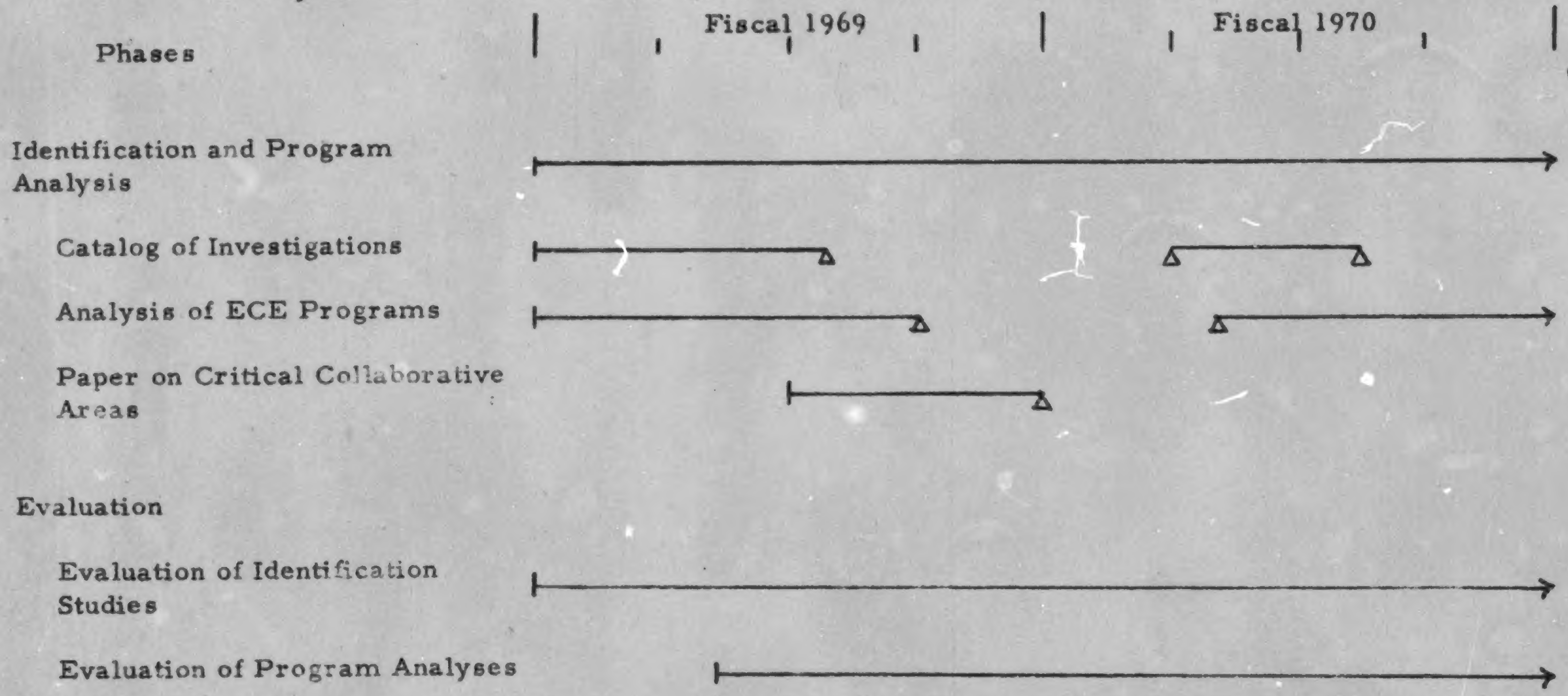
The identification and program analyses of research and development efforts external to the National Laboratory will serve as a basis for and feed directly into the planning and development of collaborative activities between the National Laboratory and other instrumentalities.

Flow chart, time schedule:

Attached.

NATIONAL COORDINATION CENTER

Project: Identification and Program Analysis of Extramural Instrumentalities



NATIONAL COORDINATION CENTER

N-BB

Title:	Planning and Development of Collaborative Activities Between the National Laboratory and Extramural Instrumentalities
Principal Staff:	M. M. Scott
Purpose, objective, or goals:	To develop and implement procedures and mechanisms for encouraging, stimulating and generating collaborative activities between the National Laboratory and other instrumentalities.
Importance, need, or justification:	Cooperation and collaboration are integral assumptions underlying the basic organizational pattern of the National Laboratory itself. In order to maximize the R&D effort and in order to make more efficient use of research energies and monies available, viable cooperative relationships with other persons and groups working with young children is deemed essential. The geometric progression which is often obtained by unification of individual efforts is thought to be a highly productive way of achieving a desired research end point with maximum quality and minimum time and of producing a higher yield on the research dollar.
Method, strategy, or design:	1. Encourage between investigators working in similar areas spontaneous and productive exchanges of ideas, working papers, interim reports, etc., through such tools as investigator catalog, program analyses and/or paper re same, selective mailings, phone calls, etc. 2. Promote direct contact of investigators working in critical collaborative areas for the purpose of stimulating cooperative research ideas and designs through use of such techniques as conference calls, etc.

Method, strategy, or design (Continued)

3. Promote symposia, invited discussion groups, etc., at professional meetings on topics in critical collaborative areas.
4. When sufficient interest and planning has developed in a critical collaborative area, sponsor conference for generating collaborative study.
5. Provide selected support services for a collaborative study such as access to data bank, resource holdings, product dissemination, etc.

Characteristics of the users: Investigators working in similar areas of research in Early Childhood Education.

Expected end products of results: Collaborative activities between the National Laboratory and other instrumentalities.

Evaluation procedures:

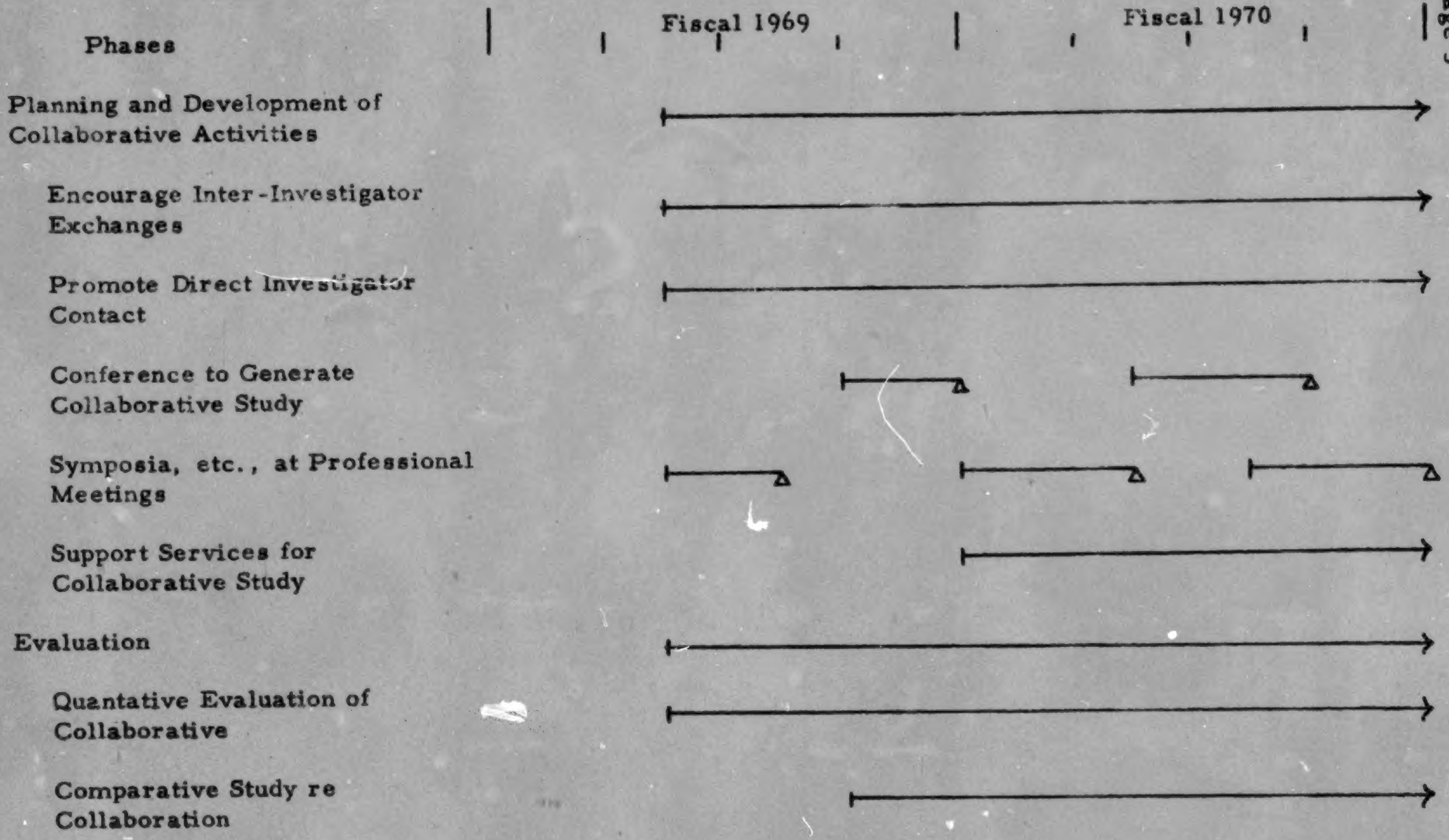
1. Number and kind of collaborative activities generated, e.g.,
   a. collaborative studies
   b. cooperative efforts (such as staff sharing for consultative purposes)
   c. discussions, paper exchanges, etc.
2. A comparative study is in planning of the relative effectiveness of different methods of generating collaboration.

Relationship to other programs: The planning and development of collaborative activities receives input from and provides output to all other components of the National Laboratory in providing ready access to the field of ECE external to the National Lab for such activities as field testing of research ideas, wider dissemination of products, etc.

Flow chart, time schedule: Attached.

NATIONAL COORDINATION CENTER

Project: Planning and Development of Collaborative Activities Between the National Laboratory and Extramural Instrumentalities



NATIONAL COORDINATION CENTER

N-C

Title: Communication Network

Principal Staff: B. Carss, J. O. Miller, B. McNeil

Purpose, objective, or goals: To design, develop and implement a communications network to hasten the flow of information both within the organizational structure of the National Laboratory and between the National Laboratory and other people and agencies.

Importance, need, or justification: This program has both long and short term goals. The long term goal is to move research and development results into practice as rapidly as possible. The short term goals include developing an awareness of the work of the National Laboratory among individuals outside the Laboratory and to support through improved communications the oncoming work within the Laboratory. At the heart of the research and development effort lies the need for a rapid communication system which speeds the flow of information during the entire research and development process. The active researcher must have the work of other investigators easily available to him if he is to make quantum leaps during the conduct of research. If the practicing field is to be affected by research and development products, these must be available much more rapidly than has been the case heretofore. A comprehensive communication network using the most recently developed technology is a basic support system to the Laboratory.

Method, strategy, or design:

1. A highly integrated internal communication network will be designed and developed to support and speed the flow of ideas and products among the research community and to consumer groups. The network will act as a sounding board for novel but untested hypotheses.

Method, strategy, or design (continued)

This system includes both the integration of the best possible software and hardware components available.

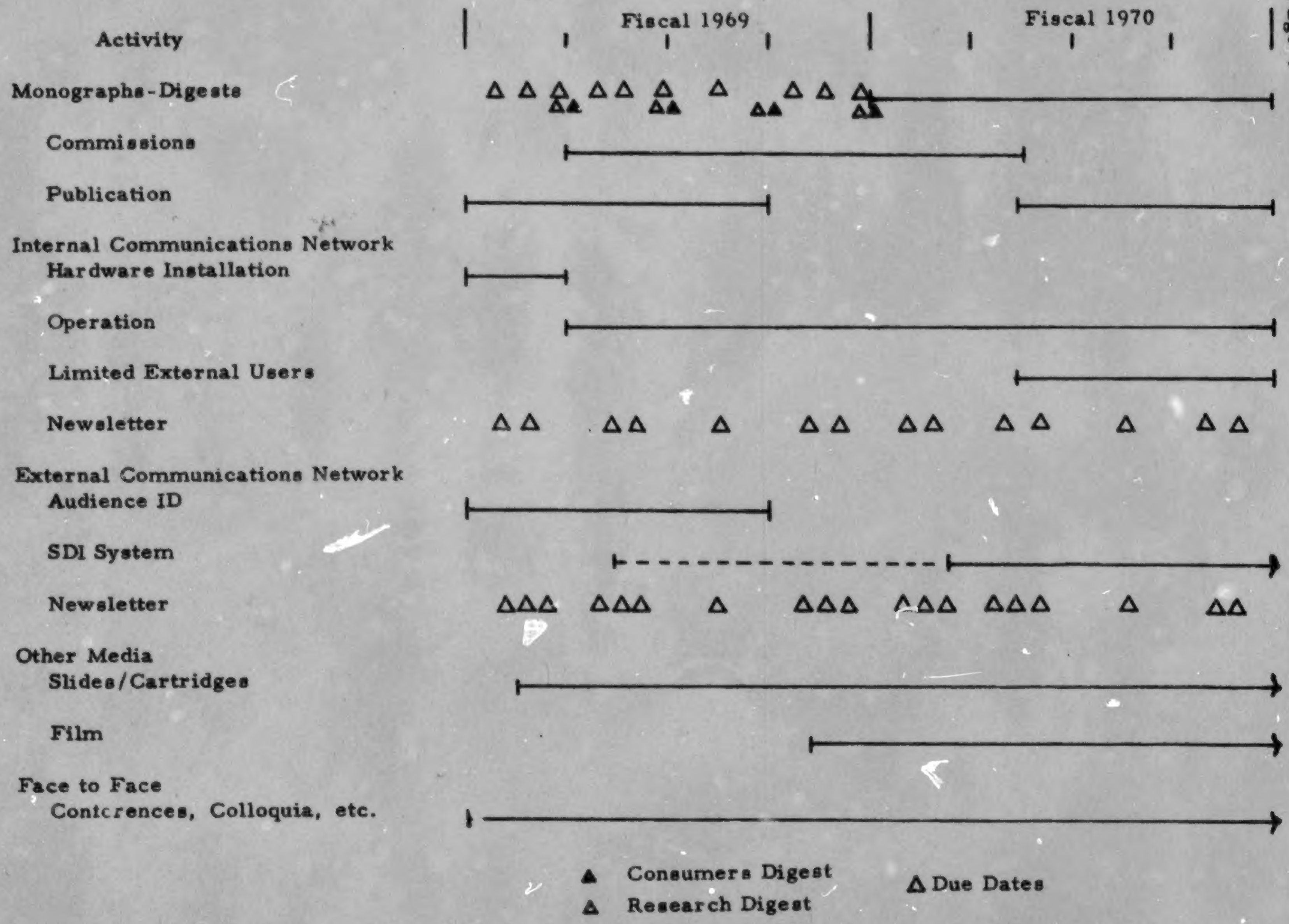
2. The external communication network will require the development of an interface between the National Laboratory and individuals and other agencies. Investigators and agencies active in work with young children and in early childhood education and development will be identified and catalogued according to their interest area as the first step in establishing external communications. They will be solicited for preprints, reprints and working papers in an exchange system among investigators.

3. The total communication network will serve the dual functions of acquisition and dissemination of research information. The acquisition function, which may at times operate simultaneously with the dissemination function, has as its goal the acquisition of relevant information and materials from researchers and practitioners in the field of early childhood education and development. The dissemination function will have as its primary goal to speed the dissemination of appropriate information and materials to researchers and practitioners. The acquisition and dissemination strategies will include audience identification; design of materials for wide distribution; use of appropriate media and technology; establishment of a telecommunications network; distribution of monographs, state-of-the-art papers, occasional papers, bibliographies, and newsletters (both internal and external); development of a system for rewriting and repackaging of research materials; both formal and informal communication at conferences, seminars, colloquium, and workshops.

Expected end products of results:	Categorical mailing lists, acquisition systems, dissemination systems for monographs, state-of-the-art reports, position papers, occasional papers, newsletters, curriculum materials and devices, slides, audio and video tapes, films, books, etc.
Evaluation procedures:	Procedures are being developed and new ones designed to measure the degree of impact that the various products and strategies outlined above have on research and research utilization in early childhood education.
Relationship to other projects and focus:	The communication network is intimately related to the resource development program, the research and development program, and the intra and extramural collaboration program. The communication network provides a means for the flow of information.
Flow chart, time schedule:	Attached.
Linkages:	The communication network will serve the dual purpose of acquisition and dissemination for the research and development effort, resource and development program, and the funding and planning efforts.

ACTIVITY AND PROJECT TIME SCHEDULE

Program: Communication Network



NATIONAL COORDINATION CENTER

N-CA

Title:	Information Analysis
Principal Staff:	Brian Carss, James O. Miller, Mary Kitzmiller, Consultants
Purpose, objective, or goals:	To develop a series of products which synthesize the results of many individual uncoordinated research and development observations and present them in an appropriate format for a specified audience. These products will be both research oriented and consumer oriented.
Importance, need, or justification:	The information analysis program will satisfy two major functions of the ERIC Clearinghouse, acquisition and dissemination. The dissemination function will require the distribution of monographs, state-of-the-art reports, occasional papers, internal and external newsletters, slide talks, films, video tapes, etc. The visibility obtained through the dissemination function will directly aid the acquisition function, by presenting the informational needs of the ERIC Clearinghouse to a variety of audiences.
Method, strategy, or design:	a. Identification of consultants from whom monographs, bibliographies, occasional papers, can be commissioned. b. Identification of sources of information for copy for the various newsletters. c. Development of a means to rewrite and repackage research materials. d. Development of an SDI program which will rely on the Resources program for audience identification. e. Use of all media and technology.
Characteristics of the users:	A very broad spectrum ranging from research workers, administrators and practitioners to the interested lay audience.

Expected end products of results:	Monographs, state-of-the art reports, position papers, specialized publications such as the "self-indexing bibliography series (SIBS), curriculum materials, slides, audio and video tapes and films.
Evaluation procedures:	Procedures are being developed to measure the degree of impact that the various dissemination products have on the research audience and the consumer audience in early childhood education.
Relationship to other center projects and center focus:	Resource Development R&D Program
Linkages or activities within the program:	R&D effort informational needs Resource and Development

NATIONAL COORDINATION CENTER

N-CB

Title: Communication's Link (COMNET)

Principal Staff: Brian Carss, James O. Miller

Purpose, objective, or goals: To develop a highly integrated internal communications network, to hasten and encourage the exchange and free flow of information within NLECE.

Importance, need, or justification:

1. Make possible the sharing of informational resources.
2. Equalize access to information.
3. Facilitate long-distance interpersonal interactions.
4. Provide better bibliographic services.
5. Make "life saving" information instanteously available.
6. Decrease the production of unused copies of a wide range of information materials.
7. Provide information in a format appropriate to the user.
8. Improve continuing education by the spontaneous exchange of information.
9. Decrease administrative delays in transmission and reception of management information.
10. Decrease the possibility of copyright infringement by keeping track of document use to protect the intellectual property of the author.

Method, strategy, or design: Install a teletype-writer in each of the six R&D Centers and a seventh in the NCC. Initially a feasibility study will be performed by attempting to simulate the actual information traffic pattern among the R&D Centers. A pilot study, involving one teletype-writer in the Arizona R&D Center will be initiated to collect operational data to verify the simulation model.

Characteristics of the users: Steering Committee, Principal Investigator and NLECE Staff.

Expected end products of results: A highly integrated internal telecommunications network which will be documented with regard to traffic patterns of information flow, measurements of the accuracy of different services, value and popularity of various services, distribution of frequency of usage.

Evaluation Procedures: Determine the usefulness of the COMNET and determine the degree of satisfaction of users in relation to cost. It will be necessary to record:

a. Information needed in accounting.
b. The amount of time delay before services are received (lag time).
c. The amount of time required for the complete service (response time).
d. User's interest patterns.
e. Position in NLECE.
f. Some measure of satisfaction or dissatisfaction.

Relationship to other center projects or center focus: Related to all projects who have informational needs.

Flow chart, time schedule:
12-1-68 to 4-30-69 Feasibility and pilot study
5-1-69 to 11-30-69 Implementation

Linkages or activities within the program:
R&D Program
Resource Program

NATIONAL COORDINATION CENTER

N-D

Title: Material and Human Resource Development Program

Principal Staff: James O. Miller; NCC Staff

Purpose, objective, or goals: The purpose of this program is to develop a series of integrated material and human resources banks which will support the research and development effort of the laboratory and provide substantive materials and human expertise for field users of the laboratory's product.

Importance, need, or justification: A centrally coordinated source for information concerning materials, devices, curriculum guides, training syllabi, manufacturers, publishers, and suppliers of materials for educational programs for young children is an essential ingredient for rapid dissemination of knowledge and practice. Such a central collection, catalogued in a compatible system used for all resource holdings, will provide rapid access and retrieval to consumer and research audiences. In a rapidly expanding field, the need for consultant expertise to insure quality programs must also have the highest priority.

Method, strategy, or design:

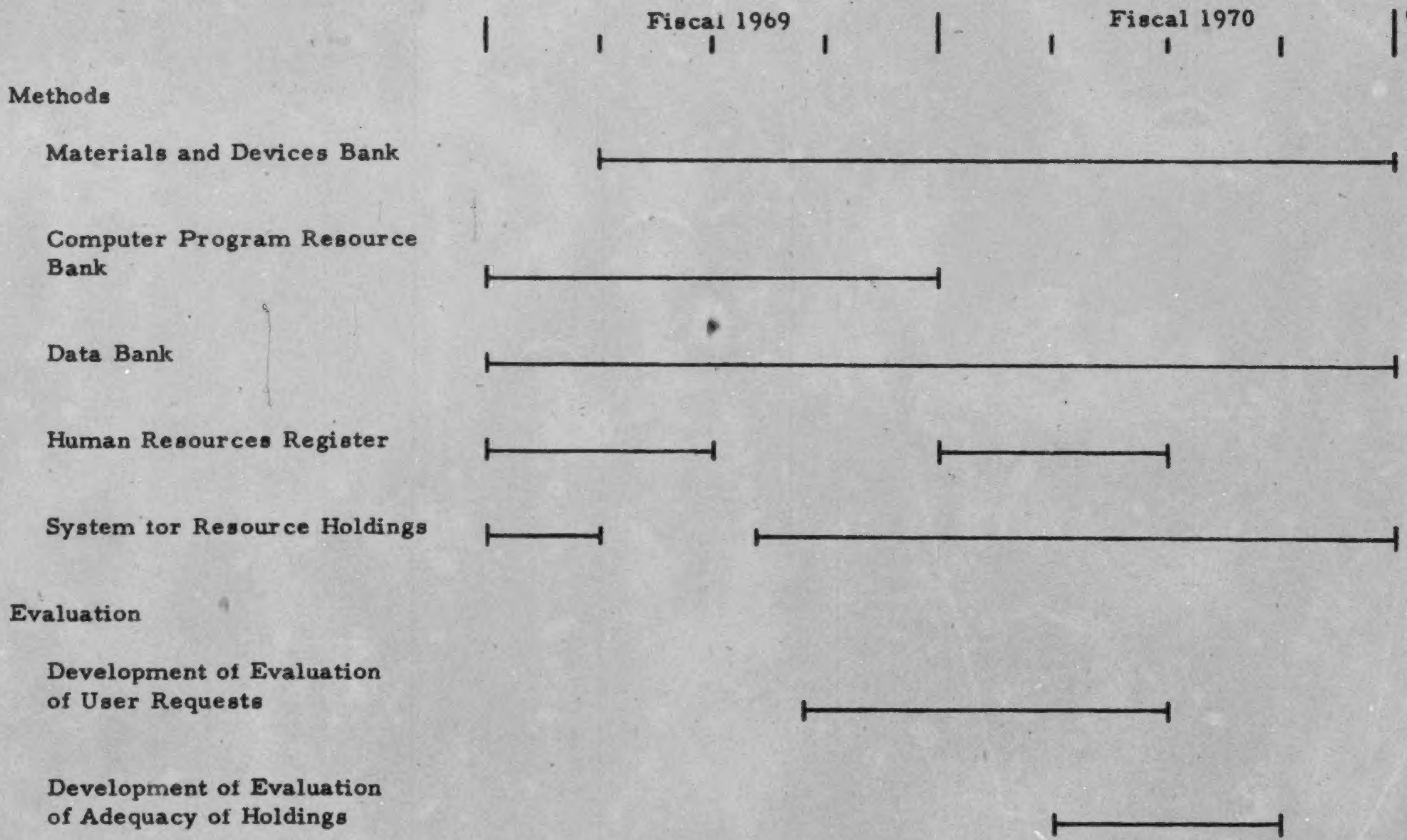
1. In the resource development program, a materials and devices bank will be begun, incorporating a system of continuous acquisition and updating. Available but fugitive sources will be identified and solicited for curriculum guides, training syllabi, etc. Manufacturers', publishers', and suppliers' catalogues will be included in a storage system compatible with other resource holdings of the National Coordinating Center. A complete inventory of the products so identified will not be included. Rather, the prime source will be identified for referral.

Method, strategy, or design (continued)	2. A computer program resource bank will be developed including those statistical programs most often used in research with young children. 3. A data bank of psychometric and demographic material on samples of children in the research and development center population will be maintained for status investigations. This collection should also provide base line data for future comparisons. 4. Through the identification of investigators and program analyses, qualified personnel with specialized expertise will be catalogued to develop a register of human resources. 5. A compatible system of acquisition, processing, storage and retrieval for all resource holdings will be developed.
Characteristics of the users:	The principal users of the sources would be both those in the National Laboratory complex and in other agencies in the field and practitioners in early childhood development programs.
Expected end products of results:	Resource holdings in a compatible storage and retrieval system including documents, materials, computer programs, measurement data, and a human resources register.
Evaluation procedures:	Procedures will be developed to evaluate user requests and eventually the adequacy of the holdings for research and practitioner use.
Relationship to other projects and focus:	The resource development program is necessary for effective communications, the research and development program and the collaboration program.
Flow chart, time schedule:	Attached.

Linkages: The various resource development activities are bound by the constraint of a compatible processing, storage and retrieval system.

ACTIVITY AND PROJECT TIME SCHEDULE

Program: Materials and Human Resources Development



NATIONAL COORDINATION CENTER

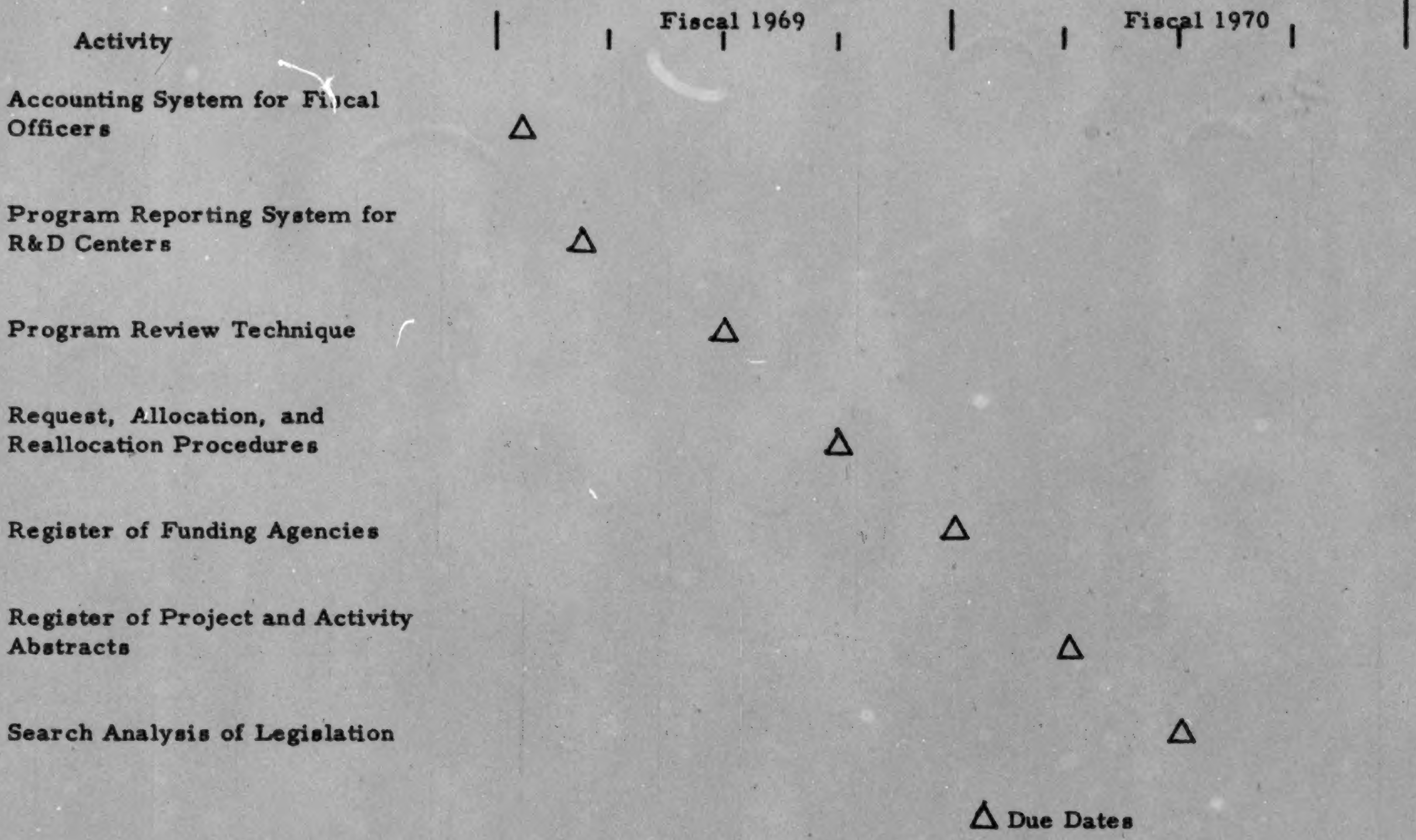
N-E

Title:	Funding and Fiscal Management Program
Principal Staff:	J. Smoltz; J. O. Miller; Fiscal Officers, Steering Committee
Purpose, objective, or goals:	To design, develop, and implement a management system or procedure that will generate a flexible, predictable, and diversified funding program for the National Laboratory with specific procedures developed for the accountability, allocation and procurement of funds.
Importance, need, or justification:	Since funds are not available on an unlimited basis, the importance of an accurate, yet flexible, system of funding is crucial. This will form the basis for the allocation and procurement of funds through more efficient accounting, monitoring, and analyzing procedures. The information will also be used for a continuous, impartial system of evaluating program expenditures within each component center. The operating principles will be equality, adaptability, flexibility, stability, democracy, and prudence.
Method, strategy, or design:	The strategies involved will be an analysis of existing funding briefs, the development of more efficient methods of expenditure appraisal, a survey of programmatic budgeting and review techniques such as PPBS, PERT, etc., which will be utilized as resources for design of budgeting and analysis procedures, to utilize the consultant services of the Educational Program Management Center under the direction of Desmond Cook at Ohio State University.
Characteristics of the users:	The users of this program will be the Component Center directors and fiscal managers and the staff of the National Coordination Center.

Expected end products of results:	1. Uniform reporting and recording procedures. 2. Appraisal and analysis procedures. 3. Classification system for expenditures. 4. Priority list of possible funding agencies. 5. Comprehensive plan for allocating funds.
Evaluation procedures:	Evaluation will be continuous with input from the directors and fiscal officers of component centers. The overall evaluation will substantiate the degree of usefulness of the funding program and whether the methods are producing the needed information.
Relationship to other projects and focus:	The funding program will overlap on all other programs within the total plan and the individual objectives.
Flow chart, time schedule:	Attached.
Linkages:	The development of the end products are inputs to developing effective and efficient systems of accounting, allocation, and procurement of funds for the National Laboratory.

ACTIVITY AND PROJECT TIME SCHEDULE

Program: Funding and Management



NATIONAL COORDINATION CENTER

N-EA

Title:	Reporting Procedure
Principal Staff:	J. Smoltz, J. Miller
Purpose, objective, or goals:	To develop a system or procedure of financial reporting by the component centers for expenditures related to individual programs, projects, and/or activities conducted in each component center.
Importance, need, or justification:	A continuous, systematic reporting procedure is necessary. Such a system will provide cost data at periodic intervals during a contract period relating to all activities within a center. This data can then be used to analyze the cost benefits of a particular output and to monitor the expenditures of each activity as it proceeds to completion.
Method, strategy, or design:	Development of a time sequence for reporting expenditures by component centers; to develop format to be used; to develop an appraisal system to determine projection accuracy.
Characteristics of the users:	The users of this activity will be the NCC staff, component center directors.
Expected end products:	A uniform reporting procedure by programs and activities with appraisal and analysis procedures. A long range output will be a more sophisticated budget plan format.
Evaluation procedures:	Evaluation will be made through the comparison and analysis of the accuracy of past budget plans and projections.
Relationship to other projects:	Related to all programs and activities of the Laboratory.

NATIONAL COORDINATION CENTER

N-EB

Title:	Accountability of Funds--Activity 1
Principal Staff:	J. Smoltz, J. Miller,
Purpose, objective, or goals:	To develop a uniform reporting procedure for the accounting officers of each component center.
Importance, need, or justification:	It is necessary to maintain records through the use of a complete and simplified accounting procedure. Maintenance of a uniform accounting procedure will provide the desired information in a usable form and on a permanent basis.
Method, strategy, or design:	Development and production of format to be used by such fiscal officer of all components.
Characteristics of the users:	Staff of the National Coordination Center, Contracts Office of University of Illinois, Component Center Directors and Fiscal Officers.
Expected end products:	Uniform accounting procedure for all components.
Evaluation procedures:	Evaluation will be continuous with value input from component center fiscal officers, NCC, and University of Illinois Contracts Office.
Relationship to other programs:	This activity will assume the role of monitor for all component centers and will be related to the total expenditure of funds.

NATIONAL COORDINATION CENTER

N-EC

Title:	Request, Allocation, and Reallocation of Funds
Principal Staff:	J. Smoltz, J. Miller,
Purpose, objective, or goals:	To develop procedures for request, allocation, and reallocation of funds to component centers.
Importance, need, or justification:	Separate procedures are necessary for the three functions. Proper and efficient procedures are important so that funds may be distributed or redistributed when needs arise.
Method, strategy, or design:	Development of means for reporting of planned versus actual expenditures by component centers in order to determine the operations which are not using the funds so that these funds might be diverted to other operations and/or activities.
Characteristics of the users:	Users will be NCC Staff and Steering Committee.
Expected end products:	More efficient method of allocating and reallocating funds.
Evaluation procedures:	Analysis of the reporting system to determine efficiency of the activity.
Relationship to other programs:	This activity is closely related to all activities of the component centers.

NATIONAL COORDINATION CENTER

N-ED

Title:	Fiscal Review
Principal Staff:	J. Smeltz, J. Miller
Purpose, objective, or goals:	To develop a program and activity review technique relating to time, cost, and performance within the Laboratory.
Importance, need, or justification:	A useful system must provide information to the appropriate management level. The information must be compared to actual and planned status in the areas of time, cost, and performance in order to facilitate proper analysis of problems and, thereby, increase the effectiveness of management.
Method, strategy, or design:	Development of reporting system to provide the necessary information. Inform the R&D Centers of the importance of the data and the need to participate in fiscal review.
Characteristics of the users:	NCC Staff, Component Center Directors,
Expected end products:	Information relating to actual and planned expenditures in the areas of time, cost, and performance.
Evaluation procedures:	Whether management is aided through the manipulation of the three dimensions of a project.
Relationship to other programs:	This program receives input from all other programs and activities of the components of the National Laboratory.

NATIONAL COORDINATION CENTER

N-F

Title: Program Planning and Management

Principal staff: J. O. Miller

Purpose, objective, or goals: To develop and implement an integrated system of long and short range planning and carry out reporting which will substantially reduce repetitive effort. The procedures for implementation would include training in planning techniques for key component center personnel. Such a system of planning and management would include evaluative procedures for the total laboratory complex.

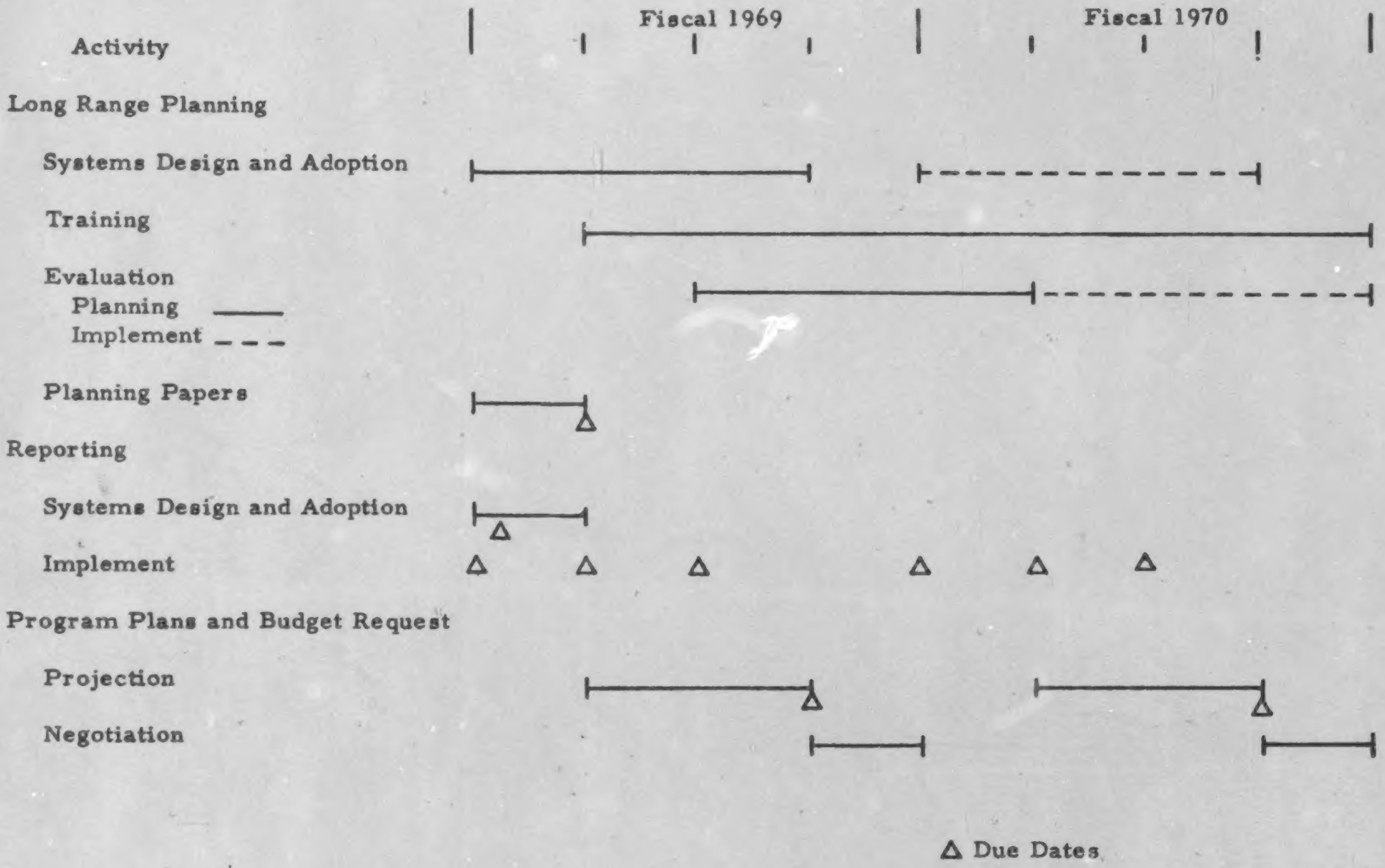
Importance, need, or justification: Program planning and management is a necessity to any programmatic research and development effort. Through careful planning and evaluation, more effective utilization of resources should occur, the decision-making process should be more orderly, and data should accrue for systematic decision-making.

Method, strategy, or design: The assumption is that the planning and reporting efforts should be mutually enhancing to development work. Evaluation is necessary to ensure that planning and reporting outputs are utilized in the area of operation where appropriate. For example, reports should feed directly into the communication network to improve the flow of information. The format and information required should be adequate so that rewrite is unnecessary, etc. Such criteria will be developed, systems designed and schematicized to incorporate the criteria, implementation will occur after careful evaluation and approval by all those concerned. Training of personnel to develop long-range planning skills will be undertaken by personal contact and consultation of NCC staff with the component

Method, strategy, or design (continued)	centers. Planning consultants will be used from the Educational Program Management Center.
Characteristics of the users:	All components of National Laboratory.
Expected end products of results:	1. An integrated planning and reporting system. 2. Papers and reports on short and long range planning generated by consultants.
Evaluation procedure:	Qualitative evaluation will be made through comparison with past proposals, technical progress reports, and with the FY 69 Program Plans and Budget Request. Evaluation will be conducted by the Advisory Board, consultants, and the U.S. Office of Education.
Relationship to other projects and focus:	Reports should be direct inputs to the communication network and material resources. There should be a direct relationship between Program Planning and the Funding and Fiscal Management programs.
Flow chart, time schedule:	Attached.
Linkages:	The periodic progress reporting should provide data for program review.

ACTIVITY AND PROJECT TIME SCHEDULE

Program: Program Planning and Management



ERIC CLEARINGHOUSE

70706-E

Number	Program, Activity/Project Title	Principal Investigator
E-A	Basic ERIC Clearinghouse	Brian Carss
E-B	ERIC Head Start Information Analysis Service	Louise Griffin

ERIC CLEARINGHOUSE

E-A

Title: Basic ERIC Clearinghouse

Principal Staff: Brian Carss, Barbara O'Neil, David Richardson

Purpose, objective, or goals: To provide an information center to gather and to disseminate documentary research and evaluation data in the field of Early Childhood Education.

Importance, need, or justification: Education research, after many years as a stable and rather limited field of activity, is now changing and growing at an unprecedented rate. This tremendous growth is producing a body of reports that threatens to swamp the educational community within a few years. Much newly developed knowledge goes unused, either in additional research or in educational practice and numerous valuable reports, many of which have been developed at great cost, are never announced or disseminated. The basic ERIC Clearinghouse program will satisfy a need to develop a systematic nation-wide means to satisfy the information requirements of the educational community in Early Childhood Education.

Method, strategy, or design: The following functions are part of the basic ERIC Operations:

1. The identification of significant research literature and programs in the field of Early Childhood Education from sources in the U.S. and abroad and including such areas as growth and development (physical, cognitive, social, and emotion) education, speech, language and communication, recreation, health (both mental and physical), therapy and related services, parent programs, volunteer services to children and families, training programs in child

Method, strategy, or design (continued)

development, community organization of services to children and families, and instrument development and evaluation techniques applicable to any of the above areas, especially those materials not readily available to consumers.

2. Abstracting, indexing, storage, and retrieval of such literature.
3. Participation in the development of an educational thesaurus.

Characteristics of the users: The audience catered to by the basic Clearinghouse is a very broad one, ranging from research workers to parents and lay persons.

Expected end products of results: Processed documents for submission to RIE and for the local collection accession lists, preparation of DJF forms, NEA Resumes, Bureau of Research report information.

Evaluation Procedures: There are three major evaluation activities within the Clearinghouse:

1. The document inventory, which is taken quarterly. Information such as the number of documents on hand at the beginning of the quarter; documents received; whether they were solicited, unsolicited; how many documents were rejected or transferred, and the number of documents completely processed. Of those documents that were processed, a log is kept of their format whether they are reports, books, journal articles, conference reports, speeches or other, and which of these are on hand locally and which have been submitted to the National ERIC RIE processing system. The number of documents that are being processed presently is also recorded as is the number of documents at the end of the period.

Evaluation Procedures (Continued)	2. Services performed by the Clearinghouse as to the mode of inquiry which may be phone, letter, visit, or presentation at a conference, the type whether it was non-subject reference, subject reference, spot bibliographies, or literature searchers, ERIC related questions or others such as a request to be placed on the mailing list. 3. The type of user of the Clearinghouse services whether they are educational practitioners, educational decision makers, R&D specialists, Information professionals, or paraprofessional organizations. The third thrust of the evaluation program is that of the processing system evaluation. Here a number of strategies have been developed to monitor the time, cost and performance of the system.
Relationship to other center projects and center focus:	The document processing system is the focus of this particular operation and is directly related to the other three major programs within the scope of the Center.
Flow chart, time schedule:	Not applicable.
Linkages or activities within the program:	Communication Network and Resource Data Bank.

ERIC CLEARINGHOUSE

E-B

Title: ERIC Head Start Information Analysis Services

Principal Staff: Louise Griffin, Nancy Thomson

Purpose, objective, or goals:

1. To communicate research findings through
   a. *Research in Education*: acquire, catalog, abstract and store reports of Head Start research.
   b. Prepare copy for the *Head Start Newsletter*.
   c. Publish Head Start Childhood Research Information Bulletin (CRIB): indexed abstracts of Head Start research twice yearly.
2. Provide routine bibliographic and reference services to Head Start personnel.
3. Provide periodic accessions lists to Head Start Central Office staff.
4. Prepare special bulletins in nontechnical form pertinent to Head Start program and operation.
5. Commission occasional papers to interpret research findings.

Importance, need, or justification:

In order for research findings to have a positive effect upon the development of the Head Start child, a communications link between laboratory and classroom must be established and maintained. ERIC, as an information network, whose scope is early childhood education, is equipped to meet this need.

Method, strategy, or design:

To identify all sources of information relevant to the Head Start, Follow Through and Parent and Child Centers Programs; to commission and publish both research oriented and consumer oriented syntheses of the research findings; develop a means to rewrite and repackage research materials.

Characteristics of the users:	Head Start HQ Staff, RTO's, Directors and Teachers.
Expected end products of results:	Monographs, Books of readings, abstract bulletings, bibliographies, occasional papers, curriculum guides and newsletter copy.
Evaluation procedures:	Procedures are being developed and new ones designed to measure the degree of impact that our various products have, and the effectiveness of the dissemination strategies that we are using.
Relationship to other center projects and center focus:	Research projects with the disadvantaged: George Peabody College, Arizona, Cornell, Syracuse, Chicago.
Linkages:	R&D Program.

ARIZONA CENTER FOR EARLY CHILDHOOD EDUCATION

70706-A

Number	Program, Project/Activity Title	Principal Investigator
A-A	Administration	Marie M. Hughes
A-B	Data Processing	Maure Hurt, Jr.
A-C	The development of an instructional program with new objectives for early childhood education	Marie M. Hughes
-CA	Evaluation of New Classroom Material	Mary Coxon
-CB	Third and Fourth Grade Program Content	Ava Dale Johnson
-CC	Measurement of Program Characteristics	Marie M. Hughes
-CD	Measurement of Program Effects	Ronald Henderson
A-D	Development and evaluation of new instructional and ancillary personnel roles	Ralph J. Wetzel
-DA	Development of New Classroom Personnel Roles	Arline Hobson
-DB	Development of Program Dissemination Personnel	Ronald W. Henderson
-DC	The Development of Parents as Instructional Helpers	Billie Underwood
A-E	Cross-Cultural Comparisons: An Extension of the Arizona Population Description Study	I. Roger Yoshino
A-F	Basic Learning Processes	Ralph J. Wetzel

ARIZONA CENTER FOR EARLY CHILDHOOD EDUCATION

A-A

Title: Administration

Principal Staff: Marie M. Hughes, Director; Ralph J. Wetzel, Associate Director; Ronald W. Henderson, Director, Follow Through Module; Edwin Appleman, Principal, Ochoa; Linda Murphy, Administrative Assistant

Purpose, objective, or goals: The purposes of the administrative directorate are:

1. Coordination and development of all programs and modules.
2. Maintenance and development of relationships with colleges and departments within the University which contribute personnel to the staff of the Center.
3. Cultivation of additional associations with departments, colleges, and outside organizations to increase and deepen the inter-disciplinary nature of the Center and its penetration and influence within the region.
4. Cultivation of cooperative relationships with the public schools.
5. The 1968-69 year, special emphasis is placed on the supervision of manuscript preparation in final form for publication.
6. Supervision and coordination of Ochoa, the research school.
7. The regular duties of Administration such as monitoring the expenditures, preparation of budget and reports. Specific staff assignments with later evaluation.

Importance, need, or justification: It serves to articulate purpose of Arizona Center to intra- and inter-group project membership. Coordination of programs, projects and modules.

Method, strategy, or design:

The methods used are:

1. Coordination and development of all programs and projects. An asset to coordination is our location in the same place and the proximity to the Psychology preschool laboratories. Our project groups are brought together from time to time for reporting purposes. Consultants are made available to them.
2. Project members are free to consult across projects.
3. Conferences. Communicating about forthcoming activities via memo or telephone.
4. Planning and evaluative meetings before and after activity.
5. Manuscript reading by several members of staff. Rechecking statistical presentations. Some effort made to identify the specific audience for whom manuscript is prepared.
6. Once a week or more extended visit to the school. One day training and evaluation with the three Program Assistants assigned to the school.
7. General administration. Self explanatory.

Expected end products of results:

An efficient, dedicated staff with varied interlocking technical skills. All operations promoting the building of a viable, productive Center.

Evaluation procedures:

Assessment made in terms of usefulness and scholarliness of end products; also growth of staff and the increased programmatic nature of the research.

Relationship to other center programs and center focus:

Needless to say, without trusted and efficient, facilitating administration the major goals of the Center will not be accomplished. The collaborative efforts with other components of the National Laboratory will be quite dependent upon the attitudes facilitating skills of the administration.

Flow chart, time schedule:	Not necessary at this time.
Linkages of activities within the program:	Coordination.

ARIZONA CENTER FOR EARLY CHILDHOOD EDUCATION

A-B

Title: Data Processing

Principal Staff: Maure Hurt, Jr., Shitala Mishra, Kathleen Durning, Mike Griffin

Purpose, objective, or goals: The data processing section has a four-fold purpose:

1. It offers consulting services to other programs within the Arizona Center.
2. It assists in the preparation of data for computer analyses.
3. It performs statistical analyses and assists in the interpretation of these analyses.
4. It develops new computer programs, both generalized and specialized, for use within the Center.

Importance, need, or justification: With the size of the samples used in the experimental programs and the volume of research being done, the evaluation process, in a statistical sense, is too time consuming to be done via hand calculations. Computerization is mandatory for most efficient use of time and manpower.

By handling statistical analyses, the data processing section frees the researchers of the Center from routine data analysis, giving them time to plan and execute further projects. In addition, the use of card coded data provides a convenient method of storage with ease of access.

Method, strategy, or design: Initially the data processing section provides consulting services in both experimental design and computer capabilities with regard to proposed research. After data collection, the section assists with the coding and key punching of the data and adapts existing programs to the intended analyses or creates

Method, strategy, or design (Continued)	new programs as required. When the analyses are complete, personnel of the section are available for interpretation of the computer results and additional analyses if desired. During the times when other programs are not utilizing the services of the data processing section, personnel of the section have a training function for other members of the staff concerning computer operations.
Characteristics of the users:	All personnel of the Arizona Center.
Expected end products of results:	Besides specific analyses, the data processing section produces new computer programs to add to the current working library. A least-squares analysis of variance for unequal group sizes is in the final stages of preparation. Also, a sequential program which will score raw test data according to a key, transform the scores to standard scores, and provide various distribution statistics on the test sample, is being perfected.
Evaluation procedures:	The data processing section has a continuing evaluative process of its internal functioning with the goals of improving the services rendered in terms of efficiency and information.
Relationship to other center programs and center focus:	In a sense the data processing section becomes an integral part of each of the other programs when that program includes use of the computer and statistical processes of evaluation. The personnel of this section are assigned to a given program for the period needed to process the data output of that program and function as a specialist member of the program staff.
Flow chart, time schedule:	The time schedule of the data processing section is dependent upon the demands placed upon it by the other programs of the Center.

Flow chart, time schedule (Continued)	Computer programs that are not required for a specific immediate use are written and "debugged" when the data processing section has time available between analyses for Center personnel.

ARIZONA CENTER FOR EARLY CHILDHOOD EDUCATION

A-C

Title: The development of an instructional program with new objectives for early childhood education

Principal Staff: Dr. Marie M. Hughes, Halene Weaver, Mary Coxon

Purpose, objective, or goals: To continue refining the Tucson Model for Early Childhood Education. In addition, the program will include a five-year-old group and an extension of the program of our third graders through their fourth grade.

Importance, need, or justification: The University of Arizona and Tucson District No. 1 Cooperative Project was a three-year project during which a new curriculum for young children, especially Mexican-Americans, was created. With this program implementation was an invention of specialized personnel (Program Assistants) who worked in the classroom to support and to demonstrate the techniques needed to work with the concepts and skills required by the new program goals and procedures.

Our subjects were six years of age, which is the time that most of American's children are in school, and curriculum building was continued through the succeeding years. This strategy has assumed even more signifance since Head Start evaluations have made necessary the Follow Through program into other grades. We were ready with a model created within a public school setting for kindergarten through third.

Method, strategy, or design: The most potent aspect in the collaborative effort of University and public school was the administrative setting-aside of all curriculum requirements, thus relieving the pressure on teachers so that they could devote their

Method, strategy, or design (Continued)

energies to the development of a new program. The second was the generosity with budget which allowed Program Assistants to work with eight to ten teachers each in the development of the program. The Program Assistant spent one full day a week with the director in evaluation of status of new program and an identification of next steps. The project teachers were brought together every other week for training and reporting of their difficulties and successes before school workshops were held with teachers.

Research on the disadvantaged child and the bilingual child was analyzed and discussed. Continued effort was made to separate opinion from conclusions that had some support from quantitative analysis of data.

Visitation to classrooms among teachers was supported through a budget for substitutes.

The first year's efforts were devoted to systematization of the teaching of language; the professional and conscious use of reinforcement, largely social; and lastly, room organization.

The second year continued first year's efforts and added a specific focus on cognitive training. Improved methods of diagnosis of children's status were designed.

The third year placed original subjects in the third grade with focus on more formal reading instruction.

Evaluation methods were improved and the present year is limited to intensive operation of the Research School which is also the lowest school within the poverty area.

Characteristics of the users:

Although the population with which we have been working is Mexican-American, serious

Characteristics of the users (Continued)

visitors to our schools have included school systems without bilingual students. The present conceptual presentation of our goals in four areas with the behavior of objectives specifically related to a given school population leaves the early education program applicable to all children.

The four goal areas are:

1. Development of language control
2. Motivational system
3. Cognitive functioning or intellectual base
4. Societal arts which include reading, writing, mathematics, and the skills of planning, decision making, and cooperation, etc.

The month of November, we had visitors from thirteen states. Of course, our largest consumers are the Follow Through program units in fourteen locations around the country.

Expected end products of results:

As already stated, we have an exportable model of an early education program for ages three through eight. In fact, we have argued that it extends through age eleven. The documents in final stages or preparation include:

1. The systematization of the natural method of learning language.
2. The total model presented with complete rationale and integration of one goal with another.
3. A series of small pamphlets explicating key operating components of the model; e.g., reading environment, room organization, intellectual kits.
4. Bulletin describing the original University and Tucson District No. 1 Cooperative Project with the conclusions quantitative and subjective.

Expected end products of results (Continued)

5. Bulletin describing the concept and usefulness of Program Assistants.
6. Descriptions of useful materials for special purposes, such as facilitation of recall, independent work.

Evaluation procedures:

Language appraisal: Van Alstyne Picture Vocabulary Test, Wechsler Vocabulary, Stanford-Binet Vocabulary, Full-Range Picture Vocabulary Test (Ammons).

General appraisal: Metropolitan Readiness Tests, California Reading Test (Primary), Stanford-Binet Reading, Metropolitan Achievement Tests. Also, a series of intellectual tasks developed within the Arizona Center.

Our evaluation has been less authoratative than we like because of the conditions under which the work was started. No comparable classrooms were available for control (nor was there money) for a proper design. To the best of our ability some correction has been made for this. Since the 1965-66 subjects were selected downward, it will be 1969-70 before we shall have comparable groups not contaminated with present program. This group is the 1964 1-C group in fifth grade.

Formal measures of teacher-pupil interaction program and non-program rooms have been taken and subjected to statistical analysis. Also, similar comparisons of teacher attitudes have been made.

Many experts in early childhood education have visited two or more days and written an analysis and critique of the program.

Four doctoral dissertations specifying with greater depth some of the relationships within the program.

Relationship to other center programs and center focus:

This program is closely related to the population and cross-cultural study, the collaborative language study, and basic learning research. The development of personnel with its evaluation and, of course, the module of Follow Through with the transmission of the Early Education Model are also closely related to this program.

To date, the focus of the Center has been the development and continued testing of the early education program with its interrelations with public schools, parents, and aides.

Flow chart, time schedule:

1968-69

1. Complete reports and other writing
2. Analyze fourth grade content and results
3. Increase parent involvement in school

1969-70

Concentrate on program development and evaluation for three- and four-year-olds.

1970-71

Evaluate usefulness of early childhood education model in middle and upper-class schools.

ARIZONA CENTER FOR EARLY CHILDHOOD EDUCATION

A-CA

Title: Evaluation of New Classroom Material

Principal Staff: Mary Coxon, Jane Evans, Ava Dale Johnson, Dr. Marie Hughes, Violet Nelson, Halene Weaver

Edwin Appleman, Principal and teachers of Ochoa School (the Research School)

Purpose, objective, or goals: The purpose of this project is to observe, supervise, and refine at each grade level through the fourth grade the development of the curriculum for young children, with special attention to use and evaluation of new materials and teaching strategies.

Importance, need, or justification: We do not consider that any curriculum should become static. Two continuing problems exist. The first one is that of meeting individual difference, and the second is assessing new materials and technological advances as they become available. Hopefully, continued basic research as well as the day to day monitoring of instructional effects will keep a curriculum viable and deepen the quality of instruction.

Method, strategy, or design: Our program has been reduced to the single school with two to four trained Program Assistants giving their full time to the school. Two members are not assigned continuing responsibility with the teachers; therefore, they can serve as observers using an array of observation sheets (reliable) focused on one aspect of the work. They search for new materials that are tried out under various conditions. Small groups of children are given the materials under controlled conditions and reactions recorded. Several sets of commercial materials, slide and film

Method, strategy, or design (Continued)	projectors, programmed materials, etc., are under scrutiny. Video-tapes are now used for evaluative purposes. The intellectual kits are reorganized with more specific purpose defined.
Characteristics of the sample:	Children of Mexican-American background, ages five through nine: one group of five-year-olds; three groups of six-year-olds; three groups of eight-year-olds; and four groups of nine-year-olds. Each classroom numbers from 18 to 26 children. All children come from the area contiguous to the school. The school itself is the lowest among the 56 elementary schools of District No. 1.
Expected end products of results:	We anticipate a better conceptualized and articulated curriculum with improvement in performance of children. Such a program is more readily disseminated. The close observation plus the more formal instruments of evaluation will increase knowledge of early education in general and increase teacher effectiveness.
Evaluation procedures:	Evaluation is partially presented in the foregoing paragraph. Diagnosis of each child and his development over time (three to five years) will be the more accurate measure of program effects. Actually, the critical criterion is the number of program children who survive the seventh to ninth grade drop out period. A measure of teacher attitudes against those not working in the program has been made.
Relationship to other center programs and center focus:	The University of Arizona and Tucson District No. 1 Cooperative Project has formed the central focus of the Center. The Follow Through Module is disseminating the curriculum for early childhood education. The Population Study included the families of children in the experimental curriculum, thus making possible the relationship of a larger number of variables. The evaluation of training techniques is also closely related to the school.

ARIZONA CENTER FOR EARLY CHILDHOOD EDUCATION

A-CB

Title: Third and Fourth Grade Program Content

Principal Staff:

Edwin Appleman, Ochoa Principal
Ava Dale Johnson, Program Assistant
Violet Nelson, Program Assistant
Third and Fourth Grade Ochoa Teachers

Purpose, objective, or goals:

The purposes are:

a. To build new content into the primary program with focus on reading, mathematics, and concepts of science and social studies
b. To help each child acquire more formal study skills with clear discrimination between directions and assignments that must be followed and those situations wherein they may assert their own independence and creativity.

Self-initiated constructive activity with responsibility for their own learning is prized.

Importance, need, or justification:

The total Tucson program is based upon the premise that children must learn to believe in themselves as learners--learners of the arts and skills prized in our society (language, reading, writing, mathematics, common concepts) in addition to the development of their own interests. The primary grades or first experiences in school continue to build an intellectual base and set the stage for lifetime learning. Openness to learning develops from successes and satisfactions.

Method, strategy, or design:

A reading environment is built and maintained throughout the school period of ages five to eight. This includes children's dictation and their own writing properly displayed and used in ongoing classwork. The teacher's own use of books to check information, to locate a given picture, as well

Method, strategy, or design (Continued)	as the daily reading of pleasurable stories, poetry, and new information attests to the importance of the printed word. This modeling of reading behavior on the part of teachers is soon picked up by children who in turn inspire other children and are asked for help by them. We are aware that for a few children an efficient bridge to highly symbolic material has not yet been discovered. The fourth and fifth grades add individual translation into writing and mathematics of most of their concrete experiences. Another strategy that is equally important with content changes in the third and fourth grade is that of individual instruction. Now the input of the teacher becomes greater and more response is required of the child. However, the reactions of the individual child to requirements need to be carefully assessed so that he is challenged but not frightened away from continued effort.
Characteristics of the sample:	Three third grade classrooms (eight-year olds) and four fourth grade classrooms (nine-year-olds) of Mexican-American children. The fourth grade teachers are "old" fourth grade teachers entirely new to the program.
Expected end products of results:	A developed and tested curriculum that may extend through eleven years of age and a cadre of effective teachers with further insight in regard to the training of "entrenched" teachers to accept a new program and experiment with it.
Evaluation procedures:	Regular standardized tests, especially designed tests, and observations of teachers plus a report of a panel of professional experts who will compare children's classroom behavior in the Research School and selected other schools.

Relationship to other center programs and center focus:	This has been spelled out previously since the school is a focal point of the Center.
Flow chart, time schedule:	This chart, as well as the others, will appear in the March report when they may more accurately reflect the future.

ARIZONA CENTER FOR EARLY CHILDHOOD EDUCATION

A-CC

Title: Measurement of Program Characteristics

Principal Staff: Dr. Marie M. Hughes, Dr. Ted Rosenthal, Mau[illegible] Burt, Jr., Shitala Mishra, Eleanor Mills and trained staff of testers

Purpose, objective, or goals: To define the components of the early childhood curriculum and to ascertain the presence or non-presence of these components in a given classroom.

Importance, need, or justification: Educational writings for too long described programs in global terms: progressive-traditional; child centered-subject centered; dominated-permissive; activity centered-book assignments. In few instances has any effort been made to define the components of action within the classroom that actually differentiates one classroom from another. This is, of course, necessary for evaluation; moreover, it differentiates one classroom within a classification from another.

Method, strategy, or design: Continued working with and conceptualization of the program has resulted in more accurate knowledge of the nature of classroom activities, interaction patterns, organization, and materials of instruction that are in line with the theoretical framework of the new primary curriculum. The presence or absence of these components can be determined by observation. An actual quantification can be made.

This continued analysis also serves as a training procedure with teachers. Microteaching with or without video taping is used. The orchestration of all the components of the program contribute to all four areas of objectives even though one may be dominant.

Method, strategy, or design (Continued)	A strength of this program is believed to be that all recommended activities and procedures are consistent one with another; thus, the total classroom program is directed toward the four areas of objectives.
Characteristics of the sample:	This program has been developed through work in sixty-eight classrooms in Tucson Public Schools. Presently the Ochoa School is used for extension and refinement of the model.
Expected end products of results:	A well tested and described curriculum program for early childhood education.
Evaluation procedures:	Observation sheets, teacher records, spot descriptions of room activities, children's reactions, and physical properties of rooms made simultaneously by two or more trained observers will be the main source of data. In addition, the materials presented under program effects will be useful in evaluating program characteristics.
Relationship to other center programs and center focus:	The effectiveness of the Follow Through Module is dependent upon knowledge of the program and its refinement. Again, as a focal base for all other activities of the Center, the evaluation and continued development of the primary curriculum is crucial.

ARIZONA CENTER FOR EARLY
CHILDHOOD EDUCATION

A-CD

Title:	Measurement of Program Effects
Principal Staff:	Dr. Ronald Henderson, Maure Hurt, Jr., Dr. Richard Rankin (consultant from University of Oregon), Dr. Ted Rosenthal, Dr. Ralph Wetzel
Purpose, objective, or goals:	We allege that we have and continue in the process of building a new primary curriculum. It is of utmost importance that proof of the efficacy of this program be ascertained. The previous project described the characteristics of the program. It is necessary to determine the degree to which these characteristics are present before program effects can be ascertained. Continuous and increasingly more sophisticated work has been done in these two facets of measurement of program effects.
Importance, need, or justification:	The importance is almost self-explanatory. How can the program be recommended until we have greater understanding of its effects on children? It is, also, of great importance to emphasize a long time longitudinal study. Perhaps the gains show up somewhat later in sustained interest in school and belief in ability of self to get and keep a job.
Method, strategy, or design:	The classic method in this case would be control groups of comparable children located at some distance away under a so-called "regular" program. There is contamination in classrooms within the district using some of the new activities. However, the chief defect in the evaluation procedures has been this lack of control group for the 1965 group of children. Our base data on vocabulary and intelligence

Method, strategy, or design (Continued)	are taken on the lowest group of the entering children. Our "control" is the 1964 group who were in 1-C. To use them, we must wait until the fall of 1969. Our second group are being compared with Anglo children and the entire fourth grades of 1965. Other measures with comparisons with Anglo-Americans, with middle-class Mexican-Americans, and other selected groups are being made. The Tucson intellectual tasks (test) given individually are providing us with special information that may prove meaningful. A wide series of standardized tests are in use. The TIA study of teacher behavior which included reinforcement records, teacher addressing whole class, group, or individual demonstrated differences between experimental and non-experimental rooms. Attitudes of teachers before and after training, experimental and non-experimental rooms, demonstrate differences in the expected direction. Our experience demonstrates clearly that much time and expertness should be devoted to the building of more appropriate instruments to test accepted goals.
Characteristics of the sample:	Our school population and control groups five to eight years of age.
Expected end products of results:	A program subjected to multiple evaluation procedures with a clear picture of additional evaluation needs. New instruments are being invented and tested. Further research hypothesis will generate.
Evaluation procedures:	See "Methods" above.
Relationship to other center programs and center focus:	Relationships have been noted previously; however, the excellence and quality of this project is interrelated with most of the programs.
Flow chart, time schedule:	Next quarterly report.

ARIZONA CENTER FOR EARLY CHILDHOOD EDUCATION

A-D

Title: Development and evaluation of new instructional and ancillary personnel roles

Projects A: Development of new classroom personnel roles
B: Development of program dissemination personnel
C: Development of parents as instructional helpers
The mother's role as a teacher of infants and toddlers

Principal Staff: Dr. Ralph J. Wetzel, Arline B. Hobson, Billie J. Underwood

Purpose, objective, or goals: To develop techniques based on research findings which bring into more formal involvement with the educational enterprise long recognized but ill-used instructional personnel resources. The work focuses on three of these resources: new classroom personnel, parents, and classroom consultants. The aim is to translate research findings into a form which can be effectively used by these resources for fulfilling the influential roles which they are assumed to have in instructional processes.

Importance, need, or justification: Increasingly, the teacher-pupil relationship is seen to be only one of many kinds of instructional interactions which contribute to the total educational thrust. Other significant sources of instruction include parents, peers, new classroom personnel, the media, and the like. The assignment of formal responsibility to these diverse and powerful instructional role relationships has lagged behind the attention paid to them. The reasons for the lag are many. Effective procedures which articulate these new roles

Importance, need, or justification (Continued)

into the instructional process are missing; training procedures which prepare the individual to assume instructional responsibility is not readily available; the findings of contemporary research identifying the environmental sources of influence on behavior are not translated into techniques available to educational personnel. Their organization and incorporation into formal educational efforts seems imperative.

Method, strategy, or design:

Procedures which develop new role enactments must take into account the initial repertoires of the individuals, determine carefully the terminal behaviors required by the role, and construct a shaping program which moves the individual towards those terminal objectives. We have been working largely in two areas; the development of classroom personnel (aides and preschool teachers) into effective managers of behavior, curriculum designers, and implementors; and the development of teachers into classroom consultants and program implementors. The work with aides is most highly developed, the work with teachers as new program consultants well under way, and the work with parents just beginning. The training objectives for classroom personnel overlap and have many implications for work with parents. These objectives are:

1. Clarification and verbalization of goals with children
    a. Developing statements about children's behavior
    b. Developing specific goal statements
2. Getting rid of inappropriate goal statements
3. Developing behavior management skills
    a. Learning to observe
    b. Recognizing reinforcers
    c. Using reinforcement
    d. Setting the situation

Method, strategy, or design (Continued)

4. Program Development
    a. Planning
    b. Curriculum content
    c. Component analysis
    d. Materials
    e. Use of consultants
    f. Job organization and planning, etc.
5. Evaluating with data
6. Team work and problem solving, etc.

Both the content and the techniques of development are based on research findings and methods. We are developing methods for shaping new roles which focus on the following:

1. Trainer-trainee interaction (i.e., language, atmosphere, and tone)
2. Information and directing (the uses and misuses of discussion)
3. Setting the occasion for appropriate behavior
4. Correcting trainee behavior
5. Trainee practice
6. Written material
7. Assignments
8. Trainee exercises
9. Using data to instruct.

Characteristics of the users:

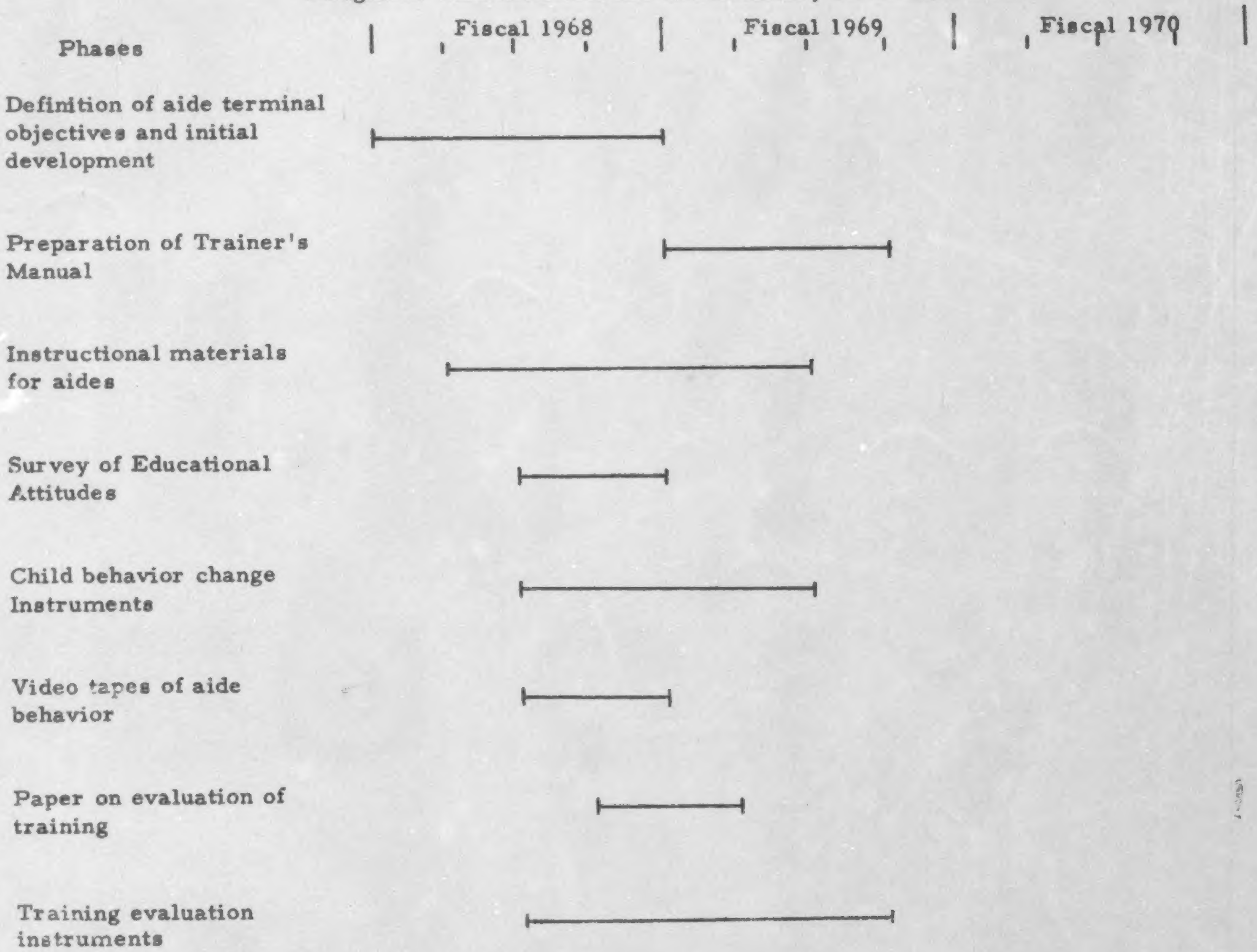
School districts, training institutions, special programs, program developers, innovators, and implementors.

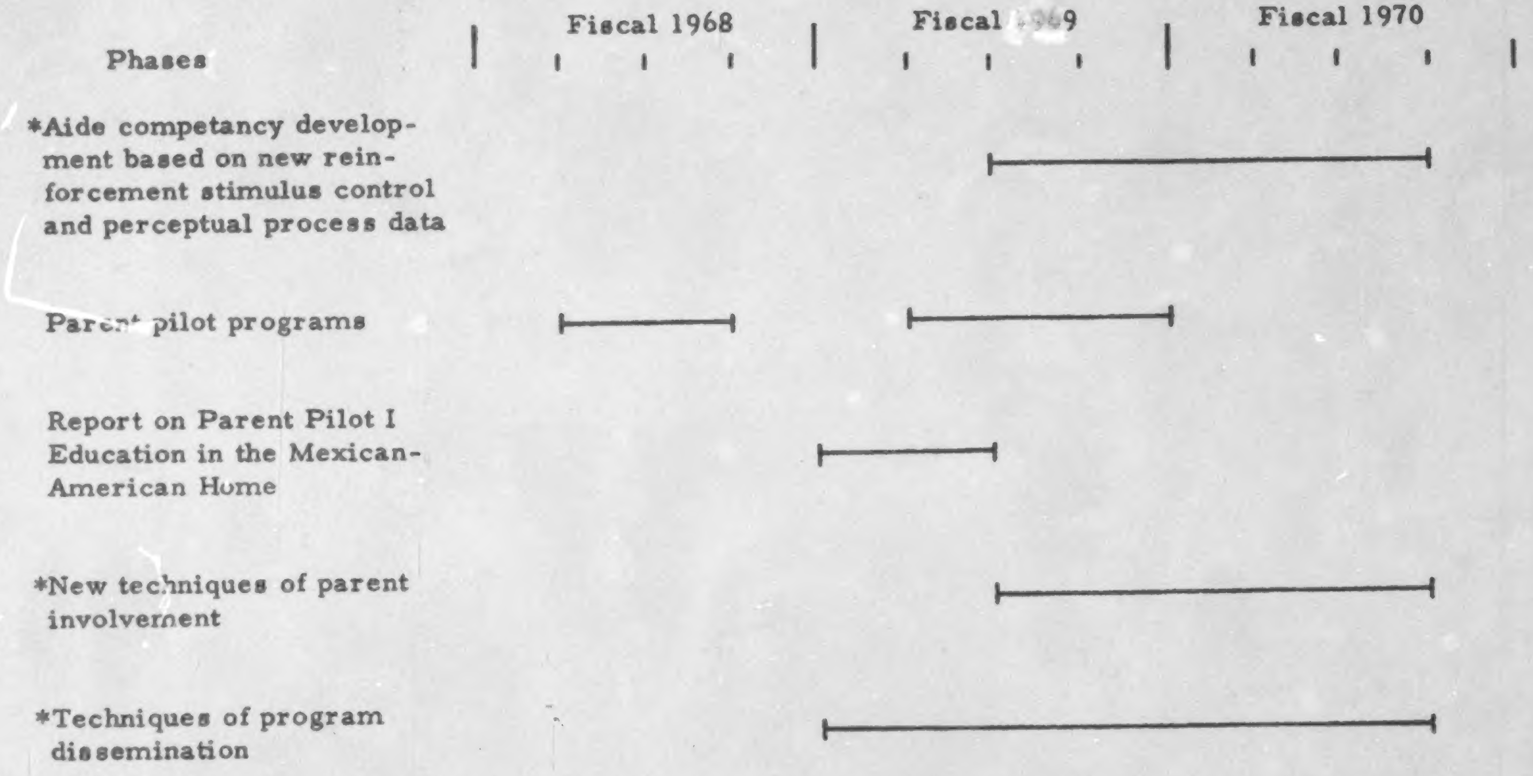
Expected end products of results:

1. A Manual for Trainers of New Classroom Personnel and other Adjunctive Educational Roles
2. Instructive materials for parents and aides (appropriate for lower educational levels)
3. Survey of Educational Attitudes (written and pictorial versions)
4. Materials and techniques which enable the para-professional to evaluate child behavior change

Expected end products of results (Continued)	5. A series of data analysis forms 6. Pre- and Post training tapes of aide behavior 7. A paper on the analysis of training techniques and their evaluation 8. Evaluation instruments.
Evaluation procedures:	Attitude survey administered pretraining, post training and at three months follow-up. Video tapes of trainee behavior pre- and post training. Teacher and aide organizational efficiency measure. Target-Incentive-Action measures.
Relationship to other center programs and center focus:	Since the classroom program model now being developed by this Center makes significant use of new classroom personnel and consultants, the evolution and evaluation of new techniques for enhancing the competancies of instructional personnel has immediate relevance. Not only should this program produce staff who are able to evaluate program effects, it should produce staff who can readily implement newly developed program concepts. The population study should provide new insights into the basic repertoires of those whom the training techniques are designed to effect, while the basic laboratory techniques provide the basic data which the present program must convert into applied research and practice.
Flow chart, time schedule:	Attached.

ARIZONA CENTER FOR EARLY CHILDHOOD EDUCATION
Program: New Instructional and Ancillary Personnel Roles





* Indicates projects

ARIZONA CENTER FOR EARLY
CHILDHOOD EDUCATION

A-DA

Title:	Development of New Classroom Personnel Roles
Principal Staff:	Arline Hobson, Dr. Ralph Wetzel, Marian Martin, Billie Underwood, James Petersen
Purpose, objective, or goals:	We are beginning to recognize behaviors not traditionally identified in curricula but which clearly support educational achievement, e.g., attention, retention, discrimination, and social skills. Adjunctive personnel such as classroom aides play an important role in the development and failure of these important behaviors. Although research findings make enormous contributions to our understanding of these behaviors, the training of classroom personnel has not been based on these findings. The purpose of this project has been to develop a methodology for training teacher aides to recognize and effectively develop the "supportive behaviors" of children. At the same time, teachers learn to use, and to rely upon, their aides to perform this function. Thus, while the teacher maintains primary responsibility for the teaching curriculum, the aides execute the equally important task of shaping, reinforcing, maintaining, and improving the children's skills at attending, both looking and listening, participating as members of a group, using language effectively, attempting to solve problems, remembering, imitating, cooperating, and the many other social-intellectual skills that underlie present or future success in an academic environment.
Importance, need, or justification:	As adults in the classroom, teacher aides are part of the instructional personnel.

Importance, need, or justification (Continued)

Data on modeling and imitation, on the effects of adult attention, and on the controlling characteristics of the physical environment make it clear that aides play a teaching role (i.e., shape behavior). This role must be recognized and utilized. The aide may, indeed, be the teacher of many support behaviors. Unless specifically prepared adjunctive personnel may not only fail to help the child develop learning behaviors, they may, indeed, hinder their development. They must have the skills which will enable them to assume instructional responsibility. At the same time the teacher must not confuse her title with her function. She is not the only teacher in the classroom, not the only source of learning. She must understand the functional role which aides have and integrate them into the instructional environment.

Method, strategy, or design:

Central to this project has been the translating of a body of research evidence, on the relationship of children's behavior to its environmental consequences, into classroom practice. It has been necessary to

a. analyze the classroom environment
b. to develop a training staff to train classroom personnel.

Teachers and aides learn how to analyze their own environment to make the best use possible of available resources.

They learn to clearly specify their goals for the children, and how to organize and plan a program which is related to the achievement of these goals. They learn to work together as a team. Finally, they learn how to implement and evaluate their program. Specific training is given in group communication and problem solving, as well as in working with children.

Method, strategy, or design (Continued)	An important feature has been to train in the natural environment, including not only the buildings and materials, but the children, with whom the trainees work. Training staff members demonstrate everything they intend to teach in the same setting in which trainees will later apply what they have learned. Extended trainee practice, with careful shaping and reinforcement of goal behaviors, and the elimination of inappropriate trainee behaviors, follows. The methods that are used in teaching the trainees are the same methods which the trainees are being taught to use with children, and this is pointed out. By the end of training, trainees are performing all the terminal behaviors inherent in the goals of the training program. Follow-up is planned to maintain, and to diversify, these established behaviors. The training staff maintains close contact with administrative personnel, briefing and including them, in every aspect of the training program.
Characteristics of the sample:	Aides from Migrant Opportunity and Head Start day care centers from Tucson and outlying communities (Marana, Willcox, Randolph, Eloy), and the children enrolled in the centers. Also college students (training to be trainers) working with a group of ten children recruited through a local poverty area council.
Expected end products of results:	A manual for trainers of new classroom personnel and other adjunctive educational roles, instructive materials appropriate for lower educational levels (parents and aides), a paper reporting a measure (in English and in Spanish) of attitude change accompanying behavioral training, behavioral recording and data analysis forms, pre- and post-training video tapes of teacher and aide behavior, evaluation instrument; behavioral task, and a paper on analysis and assessment of training techniques.

Evaluation procedures:	Video-tapes, behavioral task (teacher and aide organizational efficiency measure), attitude survey, behavior recording, and trainee self-reports, reports of administrators.
Relationship to other center programs and center focus:	See A-D.

ARIZONA CENTER FOR EARLY CHILDHOOD EDUCATION

A-DB

Title: Development of Program Dissemination Personnel

Principal Staff: Dr. Ronald W. Henderson, Dr. Marie M. Hughes, Dr. Ralph J. Wetzel, Mary Coxon, Halene Weaver, Billie Underwood

Purpose, objective, or goals: The development of new instructional programs is of little value if techniques for effectively disseminating programs are not simultaneously developed. The purpose of this program is to develop a series of training experiences which prepare individuals to be effective program consultants and implementors. Its aim is to develop and evaluate implementation techniques which will have significant bearing on the whole question of innovation and systematic change in the educational process.

Importance, need, or justification: Very often the failure of educational innovation is blamed on the classroom personnel. The general conclusion is that the new program, though effective, is failing due to poor execution on the part of school people. Very often, of course, such claims cover inherent program weaknesses. It is also clear, however, that significant resistances to change do exist at all levels of the educational establishment as, indeed, they exist in all organizations. It is important, therefore, that the development of effective dissemination techniques parallel or, more importantly, be integrated with the development of program innovation. Dissemination is more than a logistic problem. It is a research problem of great complexity. Those charged with the dissemination of program must recognize the complexity of their task and develop techniques for studying and evaluating viable solutions.

Method, strategy, or design:	During the coming year, the field staff of project Follow Through responsible for disseminating the Tucson Early Education Model will work with other Center staff in the development and evaluation of dissemination techniques. Certain systematic variations will be introduced including the use of teacher guidelines and other materials, consultant modeling, TV tapes, and in-service programs. The field staff will be trained in techniques of consultation and research which will enable them to participate objectively in the development of effective program dissemination skills. The field staff will be responsible for testing particular dissemination methods and for assisting in their evaluation. It is expected that many of the techniques and the materials from the aide training program will be appropriate to this endeavor. At any rate, the analysis outlined in the Program Resume will guide the development of this project.
Characteristics of the sample:	The 14 school districts for which the Arizona Center is the program sponsor. These districts are widely separated and provide a nice variety of conditions in which to explore dissemination problems.
Expected end products of results:	A series of products will constitute the material of dissemination including teacher guides and manuals, TV tapes, and the like. In addition, a manual for change agents, a training program for implementation techniques, programmatic variations in implementation procedure, and techniques for evaluating implementation are also planned.
Evaluation procedures:	The ultimate test of dissemination success is the behavior of classroom personnel and children. Several instruments for determining the degree to which a programmatic

Evaluation procedures (Continued)

change is actually operating are now being developed in the Center. In addition, the instruments described in the Program Resume will be adapted both for use in Follow Through classrooms and with the field staff.

Relationship to other center programs and center focus:

This project develops in part from the aide training project. It will result in the principal process by which the instructional program is disseminated. Its relationship to basic research and to cross-cultural work is described in the Program Resume.

Flow chart, time schedule:

The first meetings with field staff will begin the third week of January. Specific scheduling for this project will be worked out at that time since the field staff must organize around field responsibilities. Hopefully, by summer some basic parameters of the implementation research can be identified so that beginning in the fall systematic variation of implementation procedure can begin.

ARIZONA CENTER FOR EARLY CHILDHOOD EDUCATION

A-DC

Title:	The Development of Parents as Instructional Helpers
Activities:	A. Parents as Classroom Personnel B. Mothers as Teachers of Infants and Toddlers
Principal Staff:	Billie Underwood, Marian Martin, Mary Coxon, Dr. Marie M. Hughes, Dr. Ralph J. Wetzel
Purpose, objective, or goals:	To develop techniques which will help the parent recognize his role in the educational process and enable him to participate effectively in that process.
Importance, need, or justification:	As long as the family remains a unit in American culture, parents will determine to some extent the educational outcome for their children. Important data already suggest the ways in which the divergence in outcome between socio-economic classes is a function of parent behavior. However, at all levels parents need increasing amounts of assistance as they bear the burden of helping their children become productive members of a society which is itself becoming more complex. The development of techniques of parent involvement, however, must be carefully thought out since parents must also assume their roles as members of the adult culture. Schools must assist in this process and become a meaningful resource to the parent rather than a repository for the children. At the same time, means must be found to help the parent in his shaping role in the vital years preceding so-called formal education.

Method, strategy, or design:

Two principal methods for working with parents are represented by the two activities in this project. In the first, the classroom itself is developed as a resource for the parent. This is not to make the parent a worker, but to provide opportunity for him to acquire skills. The Tucson Early Education Model lends itself particularly well to the development of parental roles which are simultaneously congruent with their normal lives and with the program aims. The emphasis on extra-classroom experience and instruction in a variety of natural settings provides a training ground for parents to gain skills in situations where they can naturally teach *qua* parents.

For the second activity, small groups of mothers with their young children will come two mornings a week and a second and different group will come two afternoons a week to a facility for training. We are presently negotiating with community organizations for a training facility. Our own budget cuts have made the provision of training facilities difficult. A period of 12-15 weeks is planned for the initial pilot work. We hope to develop a program which will not only help mothers work effectively with their young children but will also enable them to work effectively with other adults. Materials for the mother to share with friends will be developed. Once a week, or every other week, mothers and their friends will be asked to attend a special meeting. Home visits to support the mothers in their efforts will be made as the budget allows.

Characteristics of the sample:

Parents of children in the Preschool Laboratory will constitute the pilot population. Parents of children in the Ochoa classrooms will also participate in the field evaluation of the parent in the classroom work and eventually the parents of children in the

Characteristics of the sample (Continued)	14 Follow Through districts will constitute the implementing population. The sample for the toddler program will depend on the ultimate location of the facility. It is assumed that about 10 mothers will participate in the pilot work.
Expected end products of results:	1. Manual for teachers for working with parents 2. Instructive materials for parents 3. Training TV tapes for evaluation 4. Evaluation instruments
Evaluation procedures:	Evaluation will follow the evaluation described in the Program Resume. Attitude survey administration pre- and post-training and at follow-up intervals, video tapes of training pre- and post-training, a parent teaching style measure, and TIA measures of parent behavior.
Relationship to other center programs and center focus:	As with the other projects in this program, it is the aim of this project to develop techniques based on research findings which will bring parents into the educational enterprise in an effective way. Parent involvement is an important theme in educational thrusts and this project should reflect the findings of basic research and cross-cultural work as well as the integration of adjunctive instructional personnel into educational program.
Flow chart, time schedule:	The pilot work with parents in the classroom will begin in the spring, 1969. Hopefully, material will be ready for teachers in Ochoa to field test with parents in the fall, 1969. The work with mothers of toddlers is pending the location of a facility and budget considerations.

ARIZONA CENTER FOR EARLY CHILDHOOD EDUCATION

A-E

Title:	Cross-Cultural Comparisons: An Extension of the Arizona Population Description Study
Principal Staff:	Dr. I. Roger Yoshino, Mark Winheld, Angie Garcia
Purpose, objective, or goals:	To compare the populations of a physical area designated within the city as the poverty area. Although the largest number of families are Mexican-American, Anglos, Negroes, and Indians also live within the area. The representation is chosen on a stratified basis of a percentage of the population. The results so far have given us 247 Mexican-American families with children within the experimental project. Sampling of the other subgroups will begin in the first quarter of 1969.
Importance, need, or justification:	Since this area is a contiguous one, it provides an opportunity to obtain an accurate description of a population covered by the cliche, "poverty area." It provides information on important environmental variables related to school achievement.
Method, strategy, or design:	The interview method is used with the interviewees choosing to speak in Spanish or English. (Nearly all Indians in the area speak Spanis[illegible]) All interviewers are bilingual. The time of day or night for the interview is chosen by the interviewee.
Characteristics of the users:	Sociologists, urban planners, and school personnel.
Expected end products of results:	An authoratative statement of the relationship of these populations to one another and the diversity in acculturation which they represent.

Expected end products of results (continued)

Information on attitudes toward school and the relationship of these variables to school achievement. (These data are not generally available.)

The increased insight regarding research needed to clarify still further the environmental variables that affect school achievement.

Two bulletins (now in process):

1. A statistical statement of immediate usefulness to public schools.
2. A major analysis and discussion of the acculturation of these ethnic and cultural groups within a small city.

Evaluation procedures:

The consistency of responses to questions will be analyzed as a check on the reliability of these demographic data.

The variability of the measures will be of particular interest since the degree of heterogeneity of this population is as yet not clear.

Finally, we will look especially to those points where these data overlap data of earlier studies to assess the degree of corroboration.

Relationship to other center programs and center focus:

Basic data regarding environmental factors related to school achievement.

Flow chart, time schedule:

1968-69

Bulletin I: Statistical presentation
Bulletin II: Synthesis and discussion of Mexican-American acculturation

1969-70

Presentation of data on Negro and Indian populations of the area.

ARIZONA CENTER FOR EARLY CHILDHOOD EDUCATION

A-F

Title: Basic Learning Processes

Principal Staff: Dr. Ralph J. Wetzel, Mr. Joseph Patterson, Mrs. Marian Martin

Purpose, objective, or goals: To identify factors in the environments of children which control the acquisition and performance of academically related behaviors. Particular attention is paid to perceptual processes and to other behaviors not traditionally identified by curricula but which clearly support educational achievement, e.g., attention, retention, discrimination, perceptual speed, hand-eye coordination, and certain social skills such as proximity, imitation, and group behaviors. Environmental factors studied include reinforcement functions and the stimulus control factors often recognized in motivational and perceptual processes.

Importance, need, or justification: It is becoming clear that academic skills are dependent upon an underlying repertoire of supportive skills. These skills may indeed prove to be most important since they may enable the learner to master the more complex tasks with which he will be faced at later stages in the instructional process. The supportive skills have not yet been identified clearly nor have their relationships to complex achievements been specified. Most educators still regard these skills to be characteristics of the child's "natural endowment" rather than behaviors taught by the environment. Research findings which specify the conditions under which these behaviors develop are the first step toward their receiving the attention from educational personnel which they deserve.

Method, strategy, or design:

The preschool laboratory and the experimental trailer are the principal facilities for this program. The preschool students are the subjects for both group and individual research projects. Reinforcement parameters have been systematically varied in the preschool lab and extended to classroom situations in public schools. The perceptual work to date has involved elementary students at Ochoa School where the research trailer is now located. Perceptual process instrumentation is now being set up in the individual research labs of the preschool. In addition, apparatus has been completed for the analysis of reinforcement parameters and installed in the laboratory.

The primary research method is based on the experimental analysis of behavior both single subject analysis and treatment x treatment x subject design.

Characteristics of the users:

Researchers, program innovators, training institutions.

Expected end products of results:

1. A token reinforcement system for a classroom of Mexican-American first and second graders: techniques and evaluation of classroom management, pupil behavior, and achievement.
2. A bibliography of token reinforcement systems with young children.
3. A study of disruptive behavior as a function of teacher reward and punishment schedules.
4. A paper: Observational learning and reinforcement.
5. A review and bibliography of matching-to-sample research techniques and findings.
6. Construction of a five choice matching-to-sample automated research device.
7. A 180 frame matching-to-sample program for the development of number concepts.

Expected end products of results (continued)

8. A research report on the development of number and errorless discrimination techniques.
9. A research study of individual and group reinforcement parameters.
10. A research study on the development of attention and other supportive behaviors.
11. A research study on the development of perceptual processes in children and their relation to classroom performance.

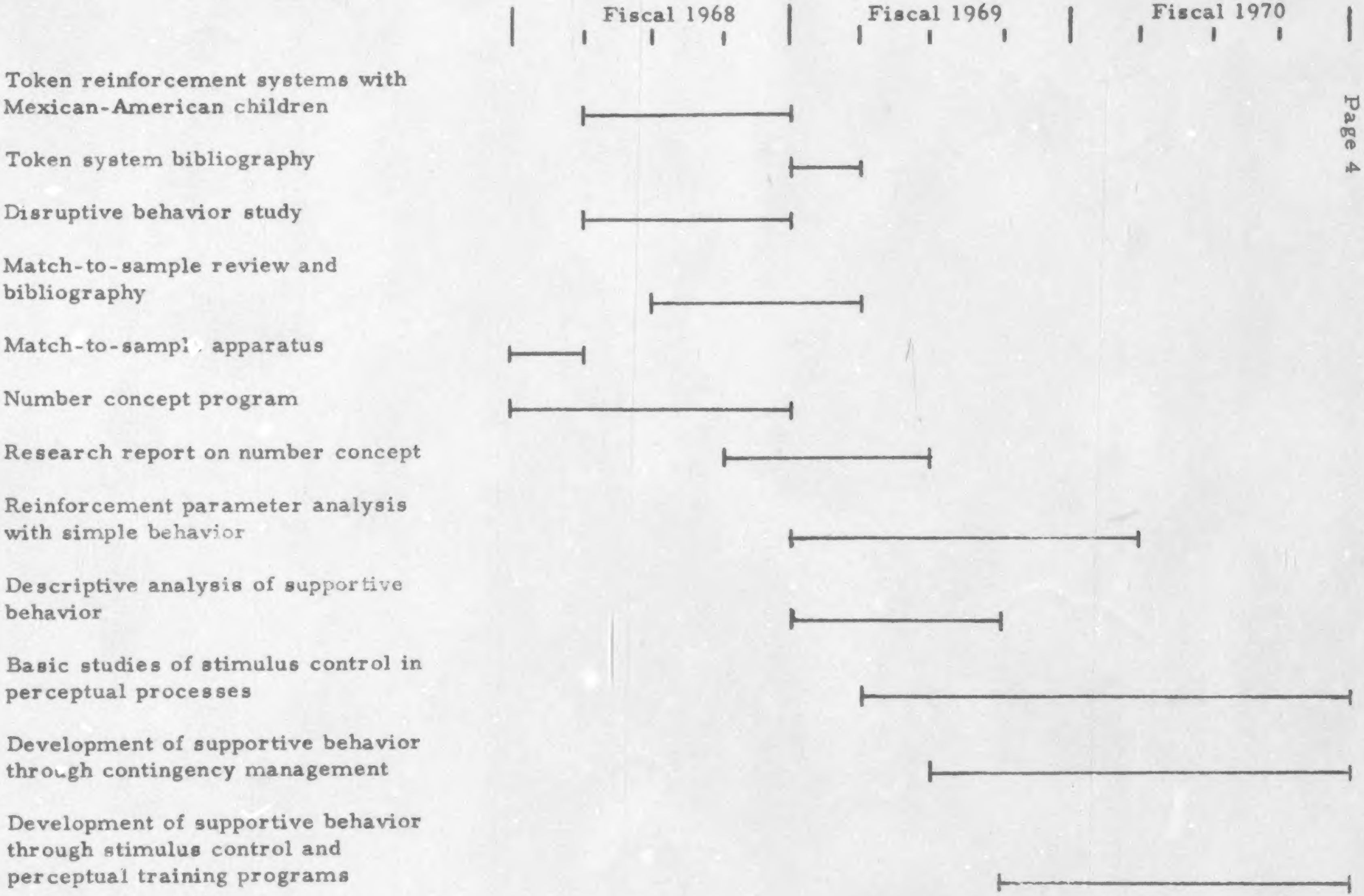
Evaluation procedures:

As a body of research the projects in this program are evaluated in a variety of ways. The single subject analysis as described by Sidman in his book _Tactics of Scientific Research_ research has been relied upon particularly for the study of reinforcement effects. The rationale and techniques of these methods are discussed in a forthcoming monograph by Bijou and his colleagues (a monograph for the _Journal of Experimental Child Psychology_) and their applications to applied research in the natural environment discussed in a forthcoming book by Tharp and Wetzel (_Behavior Modification in the Natural Environment_, in press, Academic Press). In addition, a treatment x treatment x subject design will be used which will submit the data to an analysis of variance.

Relationship to other center programs and center focus:

The data from the basic research projects feed into both the development of an instructional program for young children and into the program for developing the competencies of instructional personnel. Researchers have frequently failed to translate findings into a form relevant to classroom practice and have neglected procedures of direct training for the implementation of new techniques based on research findings. The correction of this state of affairs is the primary aim relating the programs of this Center.

ARIZONA CENTER FOR EARLY CHILDHOOD EDUCATION



CHICAGO EARLY EDUCATION RESEARCH CENTER

70706-G

Number	Program, Project/Activity Title	Principal Investigator
G-A	Studies in Early Influences Upon Social and Cognitive Responsiveness	
-AA	Twin Children and Their Response Patterns in the Early Years	Daniel Freedman
-AB	Cross-Cultural Studies or Responses in Newborns and in Children in the Early School Years	Daniel Freedman
-AC	Identifying and Describing Patterns of Social Interaction, Nursery School Through Grade One	Daniel Freedman
G-B	Studies of Children's Language and Cognitive Development	
-BA	Children's Free Speech and Structured Language Performance	Wilbur Hass
-BB	Intervention in Children's Performance on Structured Language Tasks	Wilbur Hass
-BC	Measurement and Interrelations of Latent Classes in Children's Sorting and Naming of Objects	Wilbur Hass
-BD	Cognitive Processes Underlying Meaning Systems	Carol Feldman
-BE	Elaborated and Restricted Language Codes Among Bilingual Lower Class Children	Carol Feldman
-BF	Follow-up Study of Maternal Influences on Cognition	Virginia Shipman
-BG	Determinants of Adaptive Behavior in Children	Frederick Lighthall
G-C	Studies in Moral Judgment and Cognitive Stages	
-CA	A Factor Analytic Study of Cognitive Stages and the Development of Moral Judgment in the Early Years	Lawrence Kohlberg
-CB	Stages in the Normal Cognitive Development of Young Primary Grade Children	Rheta DeVries

CHICAGO EARLY EDUCATION RESEARCH CENTER

70706-G

Number	Program, Project/Activity Title	Principal Investigator
G-D	Studies in Normal Classroom Behavior	
-DA	Studies of Constraints and Socialization in the Nursery School	Philip Jackson
-DB	Children's Transition Behavior in Free Play Activities	Susan Stodolsky
G-E	Studies of Planned Change and Communication in School Systems	Frederick Lighthall
G-F	Studies of Achievement Motivation	
-FA	Replication Studies in Nigeria of Research on Ethnicity and Achievement	Robert LeVine
-FB	Child Rearing Values and Occupational Role in Chicago Ethnic Groups	Robert LeVine
G-G	Research in the Methodology of Longitudinal Studies	
-GA	Studies to Generate Models of Examination of Change in the Structure of Variables Over Time	David Wiley
-GB	Longitudinal and Cross-Sectional Statistical Models and Task Standardization for Sorting Experiments to Identify Configurational Changes in Children's Development of Concepts	David Wiley

CHICAGO EARLY EDUCATION RESEARCH CENTER

G-A

Title:	Studies in Early Influences Upon Social and Cognitive Responsiveness
Principal Staff:	Professor Daniel Freedman, P. Druian, M. Edelman, L. Fourcher, N. Freedman, R. Marvin, D. Omark
Purpose, objective, or goals:	To identify and distinguish early environmental and hereditary influences upon children's social and cognitive response patterns from the neonatal period through the early school years with particular reference to different developmental sequences attributable to differences between identical and fraternal twins, sex differences, and continuities and discontinuities of the first six years of life.
Importance, need, or justification:	With research being taken more and more seriously which reflects the crucial importance of early influences on future growth and development of human potential, the parallel need for a solidly validated data base describing how environmental influences operate emerges strongly as the essential foundation upon which intervention programs can be developed.
Method, strategy, or design:	Qualitative and quantitative description of filmed and video-taped data, and protocols based on direct observations of subjects are being analyzed in accordance with various theoretical frameworks. Patterns of social and cognitive responsiveness sustained during segments of the first six years are being identified and interrelationships among them described. Selection of subjects has been made to make possible cross-cultural comparisons also.

Characteristics of the users and sample:	Sample: Chinese-American, European-American newborns and random groups of children in the age range four through seven years. Users: Other research personnel interested in the areas under investigation and in fields related to them; scholars and educators engaged in research-and-development activity such as formulating and pilot-testing of intervention programs for which results of this research would form an appropriate part of the knowledge source.
Expected end products of results:	The descriptive and inferred findings of the research activity in this program continue to be reportable in film records and written accounts. The films will be available for display and teaching purposes, a monograph write-up in preparation on some of the twin material along with journal articles such as one in preparation for Science will be accessible to the scientific and educational communities.
Evaluation procedures:	Both process and product evaluation in their application to basic research investigations are utilized in the appropriate phases of Program I as the pervasive, conventional requirements of such studies demand.
Relationship to other center projects and center focus:	The results of Program I research are being watched carefully by EERC investigators, especially those in Program II, for implications they give promise of carrying for studies of children's language and cognitive development at later stages. In addition, all EERC personnel are alert to the possibilities of generating new research on the basis of questions raised during the course of Program I activity.
Flow chart time schedule:	The progress of research in Program I is reflected in the flow of projected report documents:

Flow chart, time schedule (Continued)

Winter, 1969--journal article on selected cross-ethnic findings
Summer, 1969--summary article on findings in twin studies
Fall, 1969--preliminary report on social development study findings

Linkages of activities within the program:

The development of analytical concepts in one activity which have relevance in the data handling for other activities is a frequent occurrence. Linkages among activities in this program through shared results of significance and common utilization of data are also pervasive as in the case of the twin and cross-cultural studies. Joint use of Piagetian tasks in several phases of the program activities represent a linkage point involving collaborative contacts.

CHICAGO EARLY EDUCATION RESEARCH CENTER

G-AA

Title:	Twin Children and Their Response Patterns in the Early Years
Principal Staff:	Professor Daniel Freedman, J. Durfee, P. Druian, L. Fourcher, R. Marvin
Purpose, objective, or goals:	To assess the role of herediatary in the early social responsiveness of infants.
Importance, need, or justification:	For changing the theoretical framework within which child development may be considered.
Method, strategy, or design.	Classic identical-versus-fraternal twin comparison method to determine genetic differences.
Characteristics of the users and sample:	Sample: New-born twins born at cooperating hospitals. Users: Scholars in the general scientific community.
Expected end products of results:	One film is in the final stages of readiness for distribution; more films will be forthcoming. Monograph reporting research results and significance is in the planning stage.
Evaluation procedures:	Standard evaluation techniques in the basic research tradition utilized are part of the design.
Relationship to other center projects and center focus:	Other researchers at the several centers where infancy is the focus of study, whether or not twins are the subject samples.
Flow chart, time schedule:	The progress of research in Program 1 is reflected in the flow of projected report documents:

Flow chart, time schedule (Continued)	Winter, 1969--journal articles on selected cross-ethnic findings Summer, 1969--summary article on findings in twin studies Fall, 1969--preliminary report on social development study findings

CHICAGO EARLY EDUCATION RESEARCH CENTER

G-AB

Title:	Cross-Cultural Studies or Responses in Newborns and in Children in the Early School Years
Principal Staff:	Professor Daniel Freedman, J. Kuschner, N. Freedman
Purpose, objective, or goals:	The differentiation of learned and hereditary aspects of temperament among ethnic differences.
Importance, need, or justification:	To demonstrate the unity of biology and culture.
Method, strategy, or design:	Relies on examination of new-borns before cultural experience plays a role.
Characteristics of the users and sample:	Sample: Newborn singletons born at cooperating newborn nurseries in Chicago and San Francisco. Users: Ethnological theorists.
Expected end products of results:	Article on selected cross-ethnic findings submitted for publication in Science; assessment scales for behavioral and neurological aspects of newborn subjects.
Relationship to other center projects and center focus:	Relevance for scholars at other centers interested in the early neonatal period as well as in ethnic differences.
Evaluation procedures:	Standard evaluation techniques in the basic research tradition utilized are part of the design.
Flow chart, time schedule:	See "Flow Chart" section of program resume.

CHICAGO EARLY EDUCATION RESEARCH CENTER

G-AC

Title:	Identifying and Describing Patterns of Social Interaction, Nursery School Through Grade One
Principal Staff:	Professor Daniel Freedman, M. Edelman, D. Omark
Purpose, objective, or goals:	To study the development of interpersonal hierarchicization.
Importance, need, or justification:	One of the first applications of ethological ideas to child development.
Method, strategy, or design:	Classic sociometry methods are being used.
Characteristics of the users and sample:	Sample: Nursery and grade school youngsters in age range five through seven years from local schools. Users: Educators, psychologists, and ethological professionals.
Expected end products of results:	Two dissertations will be written along with derivatives from them by the authors.
Evaluation procedures:	Same as for projects G-AA and G-AB.
Relationship to other center projects and center focus:	Educators interested in social behavior of children in the age range involved may find practical value in findings of this study as need may arise in various center programs.
Flow chart, time schedule:	Preliminary report on studies' findings will appear in a Spring, 1969, issue of Psychology Today. Final reports will be available as dissertations in Fall, 1969.

CHICAGO EARLY EDUCATION RESEARCH CENTER

G-B

Title:	Studies of Children's Language and Cognitive Development
Principal Staff:	Professors Carol Feldman, Wilbur Hass, Robert Hess and Virginia Shipman; Frederick Lighthall; L. Pangburn; M. Shen; D. Weinberg
Purpose, objective, or goals:	To define and to assess variables in language and cognitive development with emphasis on the four to eight-year-old age range; to determine relationships among these variables, between them and other aspects of children's functioning, and between them and children's social backgrounds; to study processes by which change in children's language and cognition may be brought about; to make information on these topics more readily available to persons immediately concerned with carrying out preschool educational programs.
Importance, need, or justification:	The value of adequate conceptualizations of language and cognition in planning and assessing early education experience is particularly notable at the present time when general notions of what human language and thinking involve are changing so rapidly. The special importance of this program lies in the way in which it can relate such notions to children's actual behavior, and can demonstrate the way in which each child's functioning forms an interrelated network within him, varies from one child to another, and is modifiable by programs of intervention.
Method, strategy, or design:	The strategy of Program II consists in designing small-scale studies which together further the purposes identified above. The following methodological considerations apply variously to each investigation:

Method, strategy, or design (Continued)

a. formulation of theoretical justification of a language or cognition aspect of evident relevance

b. determination of measurement procedures for that aspect often requiring original design

c. tracing of age change in the aspect and establishing its relation to relevant developmental or background variables

d. exploring the mechanisms of change in the aspect.

One or another of these components may be emphasized in a single activity, and for each, the most relevant experimental or correlational study is set out.

Characteristics of users and sample:

Sample: Predominant among the variety of samples represented in this program are preschool and early grade children within the "normal" range on most parameters. In two cases, however, disadvantaged and lower-class bilingual children are included in the sample groups.

Users: In addition to other knowledge producers, users of Program II products include professional operations personnel in educational enterprises engaged in program development or modification for young children.

Expected end products of results:

The results of Program II studies will be made public in speeches, papers, journal articles, or books, as seems best to achieve the broadest possible communication with the segments of the user population most deeply concerned with the end products as they emerge from the research activity.

Evaluation procedures:

Test-retest procedures provide evaluative data in some activities in this program as in the case of the study of maternal influences

Evaluation procedures (Continued)	on cognition. In this example as elsewhere, evaluation is treated as the usual component of standard research procedures.
Relationship to other center projects and center focus:	The results of Program II activities stimulate new research in other programs (and vice versa) by raising basic questions. At several points a mutality of interest between investigators has resulted in collaboration, once, for instance, in exploration of joint use of a data pool, and again in the cooperative formulation of a research problem now constituting a discrete activity.
Flow chart, time schedule:	The specific studies presently constituting Program II will be completed or nearly completed by the end of the 1969 project year. Others will be begun within the context of program purposes, often building on previous program work, as time, manpower, and subjects become available.
Linkages of activities within the program:	Program II activities all clearly relate to language development, cognitive development, or to the inter-relationship of the two and to this extent each is linked to all others. More specifically and illustratively, joint efforts among several program personnel on both methodological and substantive dimensions are underway through a new research thrust on language intervention.

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CHICAGO EARLY EDUCATION RESEARCH CENTER

G-BA

Title:	Children's Free Speech and Structured Language Performance
Principal Staff:	Professor Wilbur Hass, B. Lozar, S. McCormick, B. Smulovitz
Purpose, objective, or goals:	To define, measure and study the interrelationships among language-development parameters.
Importance, need, or justification:	Current insights into language structure have led us to think about language development in new ways. If these insights are to be utilized in applied settings, relevant measuring instruments must be set up.
Method, strategy, or design:	Two studies are underway: 1. Lexical and syntactic indices in children's free speech. Involves development and application of a set of indices for syntactic complexity and flexibility, which can be applied to free, connected speech. 2. Relations between visual and verbal-auditory skill. Tests the extent to which perception and retention performance involving spoken language are related to visual form perception, in preschool children.
Characteristics of the users and sample:	Sample: 1. 30 children each at ages 5, 6, 7, 9, 11, and 13 years of age, from varying backgrounds. 2. 35 four and five-year-old nursery school children. Users: People working in the area of language development and preschool training curricula.

Expected end products of results:	Manual for syntactic analysis (in draft edition); papers presenting general background, given at International Congress of Linguists, American Speech and Hearing Association, and Society for Research in Child Development (planned); monograph and/or paper describing results in scientific publication.
Relationship to other center projects and center focus:	To be determined.
Flow chart, time schedule:	Completion by October, 1969.

CHICAGO EARLY EDUCATION RESEARCH CENTER

G-BB

Title:	Intervention in Children's Performance on Structured Language Tasks
Principal Staff:	Professor Wilbur Hass, D. Moore
Purpose, objective, or goals:	To compare the differential effectiveness of "pattern drill" and "extension" methods in teaching specific language skills, and to determine the effect of learning these skills on performance of tests of intellectual ability.
Importance, need, or justification:	Self-evident.
Method, strategy, or design:	Tutors will carry out either a "pattern drill" or an "extension" procedure with experimental groups; a control group will not have treatment.
Characteristics of the users and sample:	Sample: 36 lower-class, urban, Negro children. Users: People interested in fostering language and cognitive development in disadvantaged children.
Expected end products of results:	Structured "pattern drill" curricula; monograph reporting results.
Evaluation procedures:	Conventional research procedures.
Relationship to other center projects and center focus:	To be determined.
Flow chart, time schedule:	Indefinite, depending on additional sources of support.

CHICAGO EARLY EDUCATION RESEARCH CENTER

G-BC

Title:	Measurement and Interrelations of Latent Classes in Children's Sorting and Naming of Objects
Principal Staff:	Professors Wilbur Hass and David Wiley; L. Pangburn
Purpose, objective, or goals:	To apply latent class analysis to sorting of common objects; to assess the relation of latent class parameters to age, sex, and naming patterns.
Importance, need, or justification:	The study will exemplify the use of a relatively new method for the study of conceptual behavior, developed by Wiley, and investigate its relation to language behavior.
Method, strategy, or design:	Each subject is asked to sort objects, according to a standard procedure, and to provide verbal labels for the objects.
Characteristics of the users and sample:	Sample: 30 five-year-olds and 30 eight-year-olds. Users: People working in the area of language and cognitive development.
Expected end products of results:	Paper reporting results.
Relationship to other center projects and center focus:	To be determined.
Flow chart, time schedule:	Testing has begun and the study should be completed by October, 1969.

CHICAGO EARLY EDUCATION RESEARCH CENTER

G-BD

Title:	Cognitive Processes Underlying Meaning Systems
Principal Staff:	Professor Carol Feldman, M. Shen
Purpose, objective, or goals:	To study the emergence of the meaning system; to study the way in which the five to eight-year-old child processes language meaning.
Importance, need, or justification:	An understanding of what a child hears when he is spoken to could greatly influence the means used in teaching programs to convey information to the child.
Method, strategy, or design:	Sentences of two sorts--factual and opinion--were presented to fifteen five-year-old children on tape recordings, to fifteen five-year-old children in a conversation condition, and to fifteen eight-year-old children in each condition for a repetition task.
Characteristics of the users and sample:	Sample: The five-year-old children were in a preschool program. The eight-year-olds attended a summer day camp. The group was predominantly middle-class and racially and ethnically diverse. Users: Results may prove useful to anyone interested in nature of communication or in communication with young children.
Expected end products of results:	The results will be described in a journal article and will hopefully be included in a book after more studies on meaning systems have been done. In addition, talks will be given to various groups.
Evaluation procedures:	Evaluation is built into the research design.

Relationship to other center projects and center focus:	Emphasis in both cognition and language areas create relevance to most other projects within program, particularly G-BA, G-BB, G-BC, and G-BE.
Flow chart, time schedule:	A preliminary write-up has been completed. It will be rewritten by June.

CHICAGO EARLY EDUCATION RESEARCH CENTER

G-BE

Title:	Elaborated and Restricted Language Codes Among Bilingual Lower Class Children
Principal Staff:	Professor Carol Feldman, M. Shen
Purpose, objective, or goals:	To study some effects of bilingualism and monolingualism on cognitive development, particularly in the lower class child who, according to Bernstein, has only the restricted language code in the languages that he speaks.
Importance, need, or justification:	Teachers are well aware of the weaknesses of the bilingual child--his vocabulary difficulties, etc. Cognitive strengths in such children can also be identified here; educational programs could direct themselves to those strengths. In addition, if it can be shown that a lower class bilingual child functions as though he had two language codes (in the sense that Bernstein's middle class child has), this may provide some hint as to how to get a lever on the difficulties of the lower class child.
Method, strategy, or design:	Children were given five tasks: object constancy, relabelling of an object with another common noun, relabelling of an object with a nonsense syllable, object relations, and object relations with label changes. In each group the child had to identify an object--in some cases by pointing and in some cases by means of a verbal response.
Characteristics of the users and sample:	Sample: This consisted of fifteen lower class, monolingual children and fifteen bilingual, lower class children from the same neighborhood in Chicago and enrolled in Head Start programs.

Characteristics of the users and sample (Continued)	Users: Theorists interested in the implications of Bernstein's work, educators involved with bilingual children, and possibly educational theorists interested in educating the lower class child would be users of this project.
Expected end products of results:	A paper based on the study exists in draft form and has been submitted to a conference on child development.
Evaluation procedures:	Evaluation procedures are built into the experimental procedure.
Relationship to other center projects and center focus:	This study is directly relevant to other studies in the language-cognition-development area. In fact, this study provides a link in the sense that it studies effects of language on cognition.
Flow chart, time schedule:	The final paper on the study will be available by June. Procedures are being revised for replication next summer when Head Start Programs expand again.

CHICAGO EARLY EDUCATION RESEARCH CENTER

G-BF

Title: Follow-up Study of Maternal Influences on Cognition

Principal Staff: Professors Shipman and Hess; R. Bear; J. Brophy

Purpose, objective, or goals: To take advantage of the opportunity to develop longitudinal data and their implications beyond the scope of the just-published study-report, "The Cognitive Environments of Urban Preschool Children," also an EERC project through the quarter ending November 30, 1968. More specifically, to examine the processes through which socio-economic disadvantages affect the early cognitive development and educability of urban preschool Negro children.

Importance, need, or justification: It is expected that an understanding of these processes will assist in planning effective intervention programs.

Method, strategy, or design: Interview, observation, and test data were collected, then analyzed through such statistical techniques as correlation and partial correlation in order to analyze social class differences in terms of some specific elements of maternal behavior and environmental circumstances, in order to examine points of interaction between environment and child; and to identify and measure cognitive aspects of mother-child interaction, to identify maternal teaching styles, and to study their effects upon the child's cognitive behavior.

Characteristics of the users and sample: Sample: Mother-child pairs from middle class, skilled working class, and unskilled working class (both father-present and father-absent) families, each child serving as a subject through preschool ages.

Characteristics of the users and sample (Continued)	Users: Program development personnel in educational programs such as are embraced within Head Start, Mother-Child Center and standard school organization.
Expected end products of results:	The "Preschool" predecessor of the present study is presently being distributed as a bound mimeographed report. The successor "Follow Up" report should be available during the Spring, 1969. A published volume combining the two aspects of the continuous study is in the planning stage.
Evaluation procedures:	Standard evaluation and assessment techniques were employed in both follow-up and the earlier preschool research activities.
Relationship to other center projects and center focus:	Scholars developing programs to serve preschool and early grade youngsters from disadvantaged backgrounds as described above (DARCEE investigators, for instance) should find the emerging results of this study useful.
Flow chart, time schedule:	Publications listed in "Expected End Products" above punctuate the sequence of activities in the broad thrust of research embraced by this project and its predecessor.

CHICAGO EARLY EDUCATION RESEARCH CENTER

G-BG

Title: Determinants of Adaptive Behavior in Children

Principal Staff: Professor Frederick Lighthall

Purpose, objective, or goals: To investigate and think through the forces that cause children at various ages to stop action and think where thinking is required. The guiding conception is that thought is not good and action and/or vice versa; it is thought that adaptation or "fitting in" requires differentiated, thought-action according to circumstances.

Importance, need, or justification: New knowledge about how children adapt to changing circumstances in their environments is crucial to the improvement of problem-solving and other cognitive skills within school settings. A clearer definition of determinants of adaptive behavior will provide important inputs to such educational intervention.

Method, strategy, or design: Two prototypical patterns of relation between time allocated to thought in several situations and consequential success in those situations were explored through within-subject analyses of variance. Effects of age and feedback on these patterns were explored in two samples of lower middle class boys.

Characteristics of the users and sample: Sample: Lower middle class boys in a spread of early primary age groups.

Users: Researchers in the area of cognitive styles within the context of the reflectivity-impulsivity dimension proposed by Kagan.

Expected end products of results:	The second half of a paper "The Allocation of Time to Thought: Two Adaptive Patterns" will be prepared before the end of the present funding period.
Evaluation procedures:	Evaluation techniques include standard research procedures in exploring decision and closure phenomena: test administration and data coding.
Relationship to other center projects and center focus:	Colleagues at George Peabody and Syracuse are collaborating on the general topic embracing this research: cognitive styles as a manifesto of reflectivity-impulsivity.
Flow chart, time schedule:	The conclusion of the paper titles in "Expected End Products" above has been postponed to permit the investigators to devote their entire EERC resources to Program G-E during crucial stages of the latter work.

CHICAGO EARLY EDUCATION RESEARCH CENTER

G-C

Title:	Studies in Moral Judgment and Cognitive Stages
Principal Staff:	Professors Lawrence Kohlberg and Rheta DeVries; L. Koley; J. Lewis; M. Blatt
Purpose, objective, or goals:	To explore Piaget's developmental tasks as uniquely meaningful measures of cognitive development in young children by examining relationships between them and primary mental abilities, and parameters of moral judgment.
Importance, need, or justification:	The usefulness of Piaget's formulations as a frame of reference for the study of development in children, and for the creation of educational programs based upon the insights about that development revealed in such studies, can be determined only after more is known about relations between the ideas of the famed stage theorist and other parameters of growth and influences upon them. Contributions to the generation of such knowledge are emerging from the fundamental studies in this program.
Method, strategy, or design:	Factor analysis is the statistical method being used to analyze the data derived from the testing of subjects. Batteries of instruments yielded the data upon which will be based explication of the crucial relationships which are the focus of study in this program.
Characteristics of the users and sample:	Sample: White, middle-class, kindergarteners and first grade children--bright, average, and retarded. Users: Students and researchers in a variety of fields--human development, psychology, education, and the like; program developers

Characteristics of the users and sample (Continued)	in educational institutions seeking a broader knowledge base upon which to draw in their work in curriculum and teaching methodology.
Expected end products of results:	The items listed in the flow chart section embrace the products constituting the reportable results of this research now planned. Additional spin-offs may expand the list during the next fiscal year.
Evaluation procedures:	Evaluation techniques are part of the rigorous research methodology utilized in this program.
Relationship to other center projects and center focus:	A number of other EERC activities are making use of Piaget's stage notions--the cognitive dimension of Freedman's work in Program I is based on this formulation; the study of maternal influences on cognition which is part of Program II makes use of the theory. Thus, at the conceptual level, intra-Center relationships among research personnel are very close indeed.
Flow chart, time schedule:	The projected schedule of forthcoming reports provides punctuation reflecting the flow of work in this program. Winter, 1969--report of factor-analytic study Spring, 1969--article on differential cognitive measures Fall, 1969--monograph on evaluation of cognitive development with Piaget methods
Linkages of activities within the program:	The two major activities within Program III are closely linked in their common purpose, common conceptual framework, and the research tradition shared by the principal investigators.

CHICAGO EARLY EDUCATION RESEARCH CENTER

G-CA

Title: A Factor Analytic Study of Cognitive S and the Development of Moral Judgment in the Early Years

Principal Staff: Professor Lawrence Kohlberg, J. Lewis, M. Blatt

Purpose, objective, or goals: To determine if developmental change is a general change in underlying structural properties of thought rather than the acquisition of relatively specific knowledge or skills.

Importance, need, or justification: The usefulness of Piaget's formulations as a frame of reference for the study of development in children, and for the creation of educational programs based upon the insights about that development revealed in such studies, can be determined only after more is known about relations between the ideas of the famed stage theorist and other parameters of growth and influences upon them.

Method, strategy, or design: The question of whether general social experience is required for restructuring cognitive level, regardless of innate potential for verbal learning, is approached by exploring the effects of some broad indicators of general social experience (first grade versus kindergarten, high versus low peer group participation) upon performance on Piaget stage tasks when psychometric mental age is held constant.

Characteristics of the users and sample: Sample: Sixty-seven white, middle-class children of mental age six in kindergarten and first grade, sub-grouped with regard to age, sex, and peer group participation.

Characteristics of the users and sample (Continued)	Users: Students and researchers in a variety of fields--human development, psychology, education, and the like; program developers in educational institutions seeking a broader knowledge base upon which to draw in their work in curriculum and teaching methodology.
Evaluation procedures:	Evaluation techniques are part of the rigorous research methodology utilized in this program.
Relationship to other center projects and center focus:	A number of other EERC activities are making use of Piaget's stage notions--the cognitive dimension of Freedman's work in Program G-A is based on this formulation; the study of maternal influences on cognition which is part of Program G-B makes use of the theory. Thus, at the conceptual level, intra-Center relationships among research personnel are very close indeed.
Expected end products of results:	The items listed in the "Flow Chart" section immediately below embrace the products constituting the reportable results of this research now planned. Additional spin-offs may expand the list during the next fiscal year.
Flow chart, time schedule:	The projected schedule of forthcoming reports provides punctuation reflecting the flow of work in this program. Winter, 1969--Report of factor-analytic study Spring, 1969--Article on differential cognitive measures Fall, 1969--Monograph on evaluation of cognitive development with Piaget methods

CHICAGO EARLY EDUCATION RESEARCH CENTER

G-CB

Title: Stages in the Normal Cognitive Development of Young Primary Grade Children

Principal Staff: Professor Rheta DeVries, L. Koley, S. Natuk

Purpose, objective, or goals: To explore Piaget's developmental tasks as uniquely meaningful measures of cognitive development in young children; to refine Piaget's description of sequence of acquisition of each skill explored; to compare performance of bright, average, and retarded children; to assess the relative contributions of chronological age, mental age, and IQ to these qualitative aspects of cognitive function; to examine the intratask and intertask relationships and the relationships of the Piaget tasks to measures of school readiness and achievement; to explore the role of cognitive conflict in developmental progress; to investigate the relationships between Piaget measures and performance on the Holtzman Inkblot Test, particularly the possible relationship between conservation and the ability to project movement and the association of nonconservation and confabulated form responses; to consider the implications for curriculum and teaching methodology.

Importance, need, or justification: The usefulness of Piaget's formulations as a frame of reference for the study of development in children, and for the creation of educational programs based upon the insights about that development revealed in such studies, can be determined only after more is known about the nature of the developmental sequence and the role of individual difference, and the relationship of cognitive skills as measured by Piaget tasks to cognitive skills as measured by techniques already in use.

Method, strategy, or design:	A battery of 15 Piaget-type tests, the Stanford-Binet Intelligence Scale, and the Holtzman Inkblot Test provide the bases for determining qualitative cognitive differences among categories of subjects. The Piaget-type tests include seven conservation tasks, three egocentrism tasks, two classification tasks, a test of transitive reasoning, a test of realism and internal-external differentiation with regard to dreams, and a test of magical causality. In addition, an improved method of testing role-taking skill in a two-person, two-choice guessing situation has been developed and used with a new sample of four- and five-year-old subjects in order to more clearly determine the order of difficulty with regard to role-taking in guessing and hiding behavior, and to assess the effect of positive and negative feedback on outcome. Conflict rating and timing of response latencies in the conservation and magic tests provide the basis for exploring the role of cognitive conflict in developmental progression.
Characteristics of the users and sample:	Sample: 150 white, middle-class, boys and girls aged five to seven years, bright, average, and retarded (retardates of corresponding mental ages). Users: Students and researchers in a variety of fields--human development, psycology, education and the like; program developers in educational institutions seeking a broader knowledge base upon which to draw in their work in curriculum and teaching methodology.
Evaluation procedures:	Evaluation techniques include Guttman scaling of each task as part of the effort to define developmental sequence in acquisition. Also, correlational methods and factor analysis will be utilized.

Relationship to other center projects and center focus:

A number of other EERC activities are making use of Piaget's stage notions--the cognitive dimension of Freedman's work in Program G-A is based on this formulation; the study of maternal influences on cognition which is part of Program G-BF makes use of the theory. Thus, as the conceptual level, intra-Center relationships among research personnel are very close indeed. Six of the Piaget tasks used in this study were also used in the Cognitive Environments study of Hess and Shipman, and these are presently being analyzed as a doctoral research project.

Flow chart, time schedule:

The projected schedule of forthcoming reports provides punctuation reflecting the flow of work in this project.

Spring, 1969--Paper to be delivered to the Society for Research on Child Development on "The Development of Role-Taking in Guessing Game Behavior."

Fall, 1969--Monograph on evaluation of cognitive development with Piaget methods.

CHICAGO EARLY EDUCATION RESEARCH CENTER

G-D

Title: Studies in Normal Classroom Behavior

Principal Staff: Professors Philip Jackson and Susan Stodolsky; L. Berk; J. Bradbury; A. Karlson

Purpose, objective, or goals: To describe the ways in which children accommodate to situational factors in their early school experiences, to relate the patterns of reactivity that emerge with such factors as age, sex, and type of school environment, and thus to provide the basis for the eventual development of intervention procedures designed to facilitate the goals of classroom instruction in the light of the research findings.

Importance, need, or justification: A notable gap in research on teaching and learning is reflected in the paucity of validated knowledge about what actually happens to children in classrooms. Even the most basic observational studies in this realm have not been undertaken with any thoroughness. Results of studies in this program should begin to close that gap and will provide the basis upon which tested instructional alternatives for teachers may rest.

Method, strategy, or design: Observational systems constitute the major methodological procedure in this program. Patterns and frequencies of selected behaviors by children in school settings and play situations are being revealed in the statistical analysis of the data derived from the observations. Cross-cultural validation is involved in one activity.

Characteristics of the users and sample: Sample: Nursery school and primary grade children in middle class and mixed lower/middle groupings constitute the subject samples.

Characteristics of the users and sample (Continued)	Users: Other research workers for whom results of these studies are relevant. Eventually those involved in operational school settings will find results of these studies useful.
Expected end products of results:	Some of the initial work in the observational/ descriptive phases of Program IV research will be reported in a forthcoming issue of the *Journal of Educational Psychology*. The study segment on constraints encountered by nursery school students is in the final stages of data analysis which will be reported and planned for release in Spring, 1969. Following next summer, end products will be prepared in the research stream exploring children's transitional behavior in free play settings in school situations.
Evaluation procedures:	This process is infused in the various stages of the research procedures in Program IV.
Relationship to other center projects and center focus:	Program VII is particularly closely related to activities in this set of studies primarily through the collaborative work undertaken by Professors Jackson and Wiley in the conceptualization and data analyzing stages of the Nursery School project.
Flow chart, time schedule:	Not applicable in the present evolutionary stages of work within this program.
Linkages of activities within the program:	The major connections between activities within Program IV are described in the common purposes and methodologies which they share.

CHICAGO EARLY EDUCATION RESEARCH CENTER

G-DA

Title:	Studies of Constraints and Socialization in the Nursery School
Principal Staff:	Professor Philip Jackson, L. Berk
Purpose, objective, or goals:	To provide cross-cultural validation of earlier observational work on children's accommodations to the variety of constraints and social interaction demands found in nursery school settings.
Importance, need, or justification:	Results from this study will permit better informed intervention in nursery school programs toward the goal of reducing the incidence of constraining and frustrating experiences against the background of a taxonomy of their types.
Method, strategy, or design:	Naturalistic observation constitutes the basic methodology of the study.
Characteristics of the users and sample:	Sample: Four and five-year-old nursery school students including one group observed during two years of school experience.
Expected end products of results:	Scholarly paper reporting research results will be forthcoming before the end of the current funding period.
Evaluation procedures:	Standard research procedures include appropriate evaluation techniques.
Relationship to other center projects and center focus:	To be determined.
Flow chart, time schedule:	No further research in this stream of investigation is presently planned.

CHICAGO EARLY EDUCATION RESEARCH CENTER

G-DB

Title:	Children's Transition Behavior in Free Play Activities
Principal Staff:	Professor Susan Stodolsky, J. Bradbury, A. Karlson
Purpose, objective, or goals:	To develop a reliable method for describing the ways children move in and out of activities in the free play setting, and to relate patterns of transition to such factors as age, sex, school type, social class, and mental development.
Importance, need, or justification:	Most nursery schools program a part of the day as "free play" time, during which children can select their own activities. Although some research has been done which describes which activities children choose to do during free play, little is known in detail about the behavior of children when faced with the mandate "find something to do." Results of this investigation should provide a firmer basis for assessing alternative instructional strategies as they relate to children at various stages of development.
Method, strategy, or design:	The use of naturalistic observational records is the main methodology of this study. Children were observed over a period of months and a series of fifteen minute running records of behavior was collected for each child. A coding system for analyzing behavior samples into pre-solution, solution, and activity segments has been developed and applied to the collection of protocols. Adequate field reliability has been achieved. Statistical analysis of these data is now virtually complete so that initial tests of hypotheses have been completed.

Characteristics of the users and sample: Sample: Thirty-five nursery school children of varying sex, in the age range from approximately four to six years have been studied to date. The children attended two integrated nursery schools which differed considerably in program offered to the children.

Users: Other research workers for whom results of these studies are relevant. At some future time, this line of work may have value for persons in the nursery school field.

Expected end products of results: The coding system developed for use in this project will be available to other interested persons. A paper describing this pilot work has been submitted for presentation at the meetings of the Society for Research in Child Development in March, 1969. In addition, a published report is anticipated.

Evaluation procedures: The pilot study forms the basis for evaluation of the long range strategy for research.

Relationship to other center projects and center focus: To be determined.

Flow chart, time schedule: Will be possible to delineate following final analysis of pilot study data and determination of their significance.

CHICAGO EARLY EDUCATION RESEARCH CENTER

G-E

Title: Studies of Planned Change and Communication in School Systems

Principal Staff: Professor Frederick Lighthall, L. Huyssen

Purpose, objective, or goals: To describe, develop, and pilot test a new role, that of social psychological specialist, to facilitate planned change and communication in school systems.

Importance, need, or justification: The inclusion of the social-psychological role among other professional roles within schools will contribute significantly to the effective review, adaptation, and incorporation of innovations in schools.

Method, strategy, or design: Two trainee specialists in the new role have been placed in school systems and, by performing various functions of the role, are providing data that will be the basis of further modification and development of the role. Specifically, the trainees are providing data on such processes as entry, interpersonal conflict, membership (inclusion-exclusion), cross-role communication, territoriality, crisis management and interpersonal influence. Analysis of taped records of interventions in an elementary school system will provide a source of data upon which refinements in the training procedures for the specialists will be based.

Characteristics of the users and sample: Sample: The trainees and school systems in which they are working have been selected in accordance with the established procedures for decision-making about student/interns and cooperating schools within the Graduate School of Education.

Characteristics of the users and sample (Continued)	Users: In addition to the generation of research data of use to other investigators, this program will provide guidance to trainers of professional personnel generally and within school systems particularly.
Expected end products of results:	An end product of this program will be the development of the new role in school systems, and, therefore, an increased capacity for cooperative innovation in these systems. Intermediate products will include a transcription of an audio-tape of a problem-sensing meeting that will provide basic data on some typical kinds of hidden problems that arise in planned change situations. In addition, the accumulated experiences of the role incumbents in the two training positions, including the communications problems to which they have addressed themselves, will be the focus of summer writing in 1969.
Evaluation procedures:	Customary evaluation procedures consonant with established research methodology are utilized throughout the study.
Relationship to other center projects and center focus:	The primary relationship between this program and others in the Center proceeds through potential applicability of its findings to the dissemination and installation in school systems of developed products from the other programs.
Flow chart, time schedule:	Inapplicable at this pilot research stage.
Linkages of activities within the program:	This is a single-project program.

CHICAGO EARLY EDUCATION RESEARCH CENTER

G-F

Title:	Studies of Achievement Motivation
Principal Staff:	Professor Robert LeVine, J. Barkow, L. Lahr, L. Langman, B. Veradacher
Purpose, objective, or goals:	The purpose of this program has been to improve understanding of the environmental conditions, particularly those connected with the socio-economic participation and values of parents, that produce in children achievement motivation or other dispositions related to cognitive adaptation.
Importance, need, or justification:	This program's importance derives from the fact that adaptation through cognitive performance is becoming increasingly central for rural migrants to the city in this country and throughout the world.
Method, strategy, or design:	The basic research strategy is a comparative one--the cross-cultural analysis of ethnic variations in achievement motivation and their educational and social consequences.
Characteristics of the users and sample:	Sample: The subject samples include a variety of ethnic groups in Chicago (Lithuanians, Cubans, Poles, and Armenians) as well as foreign groups (Yucatec Maya peasants, Cree Indians, and Hausa Nigerians). Users: Researchers and developers of educational programs, particularly those working with cultural groups other than the dominant one in the given society.
Expected end products of results:	Products of this program take the form of research papers and other publications. Examples are the Langman dissertation "Economy, Motives and Values: An Exploration into Casual Relationships," and the

Expected end products of results (Continued)	LeVine chapter "Cross-Cultural Study in Child Psychology" (in *Carmichael's Manual of Child Psychology*, edited by P. Mussen).
Evaluation procedures:	This process is embedded in the research procedures utilized throughout the projects in this program.
Relationship to other center projects and center focus:	A fundamental aim in this research is to make the cross-group comparison at home and abroad afford the entire Center an opportunity for replication of studies linking environment and performance. Thus, initial concentration has been on ethnic variations in parental environments before encompassing performance measures of children.
Flow chart, time schedule:	During the present contract period, it is anticipated that the initial phase of data collection at the newly established research outpost in northern Nigeria will be completed. The analysis of these data and their relationship to other aspects of the program, going forward and due for completion during the same time period in Chicago, will determine specifics in future time schedule projections.
Linkages of activities within the program:	Included in "Relationship" section above.

CHICAGO EARLY EDUCATION RESEARCH CENTER

G-FA

Title:	Replication Studies in Nigeria of Research on Ethnicity and Achievement
Principal Staff:	Professor Robert LeVine, J. Barkow, L. Langman, S. LeVine
Purpose, objective, or goals:	To follow up and in part replicate earlier work in areas of ethnic variations in childhood experiences, ethnic variations in achievement motivation and their educational consequences, and to develop improved methods for cross-cultural studies.
Importance, need, or justification:	To provide the basis for more effective educational programs through more effective utilization of motivational techniques derivable from study results.
Method, strategy, or design:	Cross-cultural methods directed initially toward the acquisition of authority patterns among selected northern Nigerian children.
Characteristics of the users and sample:	Sample: Native Nigerian children of the Hausa culture within the context of their family groups. Users: Educational developers and other research personnel.
Expected end products of results:	Scholarly reports and publications will include one doctoral dissertation and other written products, the first appearing prior to the end of the present funding year.
Evaluation procedures:	Not applicable at this time.
Relationship to other center projects and center focus:	EERC Program G-A bears close relationship to the methodological implications of this project in its cross-cultural aspects as do other such investigations both in Chicago and elsewhere in the National Laboratory.

CHICAGO EARLY EDUCATION RESEARCH CENTER

G-FB

Title:	Child Rearing Values and Occupational Role in Chicago Ethnic Groups
Principal Staff:	Professor Robert LeVine, L. Lahr, B. Veradacher
Purpose, objective, or goals:	To provide some background material for the replication studies in project G-FA; and to investigate cultural variations among Lithuanians, Cubans, Poles, and Armenians in child-rearing values as related to occupation roles of parents.
Importance, need, or justification:	The effect of early parental influence on children's later performance on intelligence tests and in school appears to be a crucial determinant. Investigation of this relationship promises important findings for intervention activities in early childhood education programs.
Method, strategy, or design:	The basic research methodology in the studies comprising this project is cross-cultural comparative.
Characteristics of the users and sample:	Sample: School-age children in the four ethnic communities listed in "Purpose" above, observed, interviewed and tested in the familiar setting. Users: Results of this research will be useful to scholars in related fields and eventually will have implications for educational program planners.
Expected end products of results:	Two research reports suitable for publication in part will be generated by this research with initial drafts scheduled to be ready during Fall, 1969.
Evaluation procedures:	Within accepted research conventions, evaluation plays an integral part in this study.

Relationship to other center projects and center focus:	Cross-cultural study of this sort has implications for all Center and Laboratory scholars working in the general area of achievement motivation and cognitive responsiveness.
Flow chart, time schedule:	The flow of research in this project has not been specifically determined at this time beyond the completion of the two reports mentioned in "Expected End Products" above.

CHICAGO EARLY EDUCATION RESEARCH CENTER

G-G

Title:	Research in the Methodology of Longitudinal Studies
Principal Staff:	Professor David Wiley, W. Bramble, W. Keesling, W. Schmidt
Purpose, objective, or goals:	To develop new methodological procedures for longitudinal research investigations of young children, and specifically to develop new mathematical models for dealing with longitudinal data and to create some statistical tools for a particular study of the child's development of conceptual categories.
Importance, need, or justification:	Most of the methods now used for the analysis of data in this research area are extremely primitive. New ones are required for the acceleration of the systematic advancement of knowledge.
Method, strategy, or design:	Much of the work in this problem area is mathematical and statistical and requires the development of computer programs with illustrative analyses of existing data. Some of it, however, will require the collection of new data and the application to it of new methodological techniques.
Characteristics of the users and sample:	Sample: Preschool and primary grade children constitute the sample population in those phases of research in this program which relate to the generation of new data. Users: Users of the techniques developed will be research workers in the appropriate substantive fields.
Expected end products of results:	The speech and papers listed in the flow chart section below are the now-known end products of the research in Program VII.

Expected end products of results (Continued)	As additional results become known, corresponding reports will be planned and executed in accordance with the user audiences most likely to benefit.
Evaluation procedures:	The models being developed will be evaluated by confirmation of their utility or fit with real data.
Relationship to other center projects and center focus:	The concept development aspects of this program are related to several activities in Program II and collaborative efforts are underway between two groups of investigators concerned, spear-headed by Professors Wiley and Hass. In addition Program IV personnel, including Professor Jackson, have shared responsibilities within the Nursery School project with Professor Wiley and his associates. More generally, the development of new methodological tools is relevant to all of the centers within the National Laboratory as well as to the field at large.
Flow chart, time schedule:	During the present contract period, the following major vehicles of dissemination have been projected constituting a flow chart of progress points in the research activities: February, 1969--AERA paper on concept development in children over time April, 1969--Psychometric Society paper November, 1969--Draft of formal paper on longitudinal models
Linkages of activities within the program:	The development of statistical tools in the longitudinal study of concept development makes direct contributions to the model development in the other major program activity.

CHICAGO EARLY EDUCATION RESEARCH CENTER

G-GA

Title: Studies to Generate Models of Examination of Change in the Structure of Variables Over Time

Principal Staff: Professor David Wiley, W. Bramble, W. Keesling, W. Schmidt

Purpose, objective, or goals: To develop new methodological procedures for longitudinal research investigations of young children, and specifically to develop new mathematical models for dealing with longitudinal data.

Importance, need, or justification: Most of the methods now used for the analysis of data in this research area are extremely primitive. New ones are required for the acceleration of the systematic advancement of knowledge.

Method, strategy, or design: Much of the work in this problem area is mathematical and statistical and requires the development of computer programs with illustrative analyses of existing data. Some of it, however, will require the collection of new data and the application to it of new methodological techniques.

Characteristics of the users and sample: Existing developmental data in literature and archives.

Expected end products of results: The speech and papers listed in the flow chart section below are the now-known end products of the research in this project. As additional results become known, corresponding reports will be planned and executed in accordance with the user audiences most likely to benefit.

Evaluation procedures: The models being developed will be evaluated by confirmation of their utility or fit with real data.

Relationship to other center projects and center focus:

The concept development aspects of this project are related to several activities of Program G-B and collaborative efforts are underway between two groups of investigators concerned, spearheaded by Professors Wiley and Hass. In addition, Program G-D personnel, including Professor Jackson, have shared responsibilities within the Nursery School project with Professor Wiley and his associates. More generally, the development of new methodological tools for longitudinal research is relevant to all of the centers within the National Laboratory as well as to the field at large.

Flow chart, time schedule:

During the present contract period, the following major vehicles of dissemination have been projected constituting a flow chart of progress points in the research activities:

February, 1969--AERA paper on concept development in children over time
April, 1969--Psychometric Society paper
November, 1969--Draft of formal paper on longitudinal models

CHICAGO EARLY EDUCATION RESEARCH CENTER

G-GB

Title:	Longitudinal and Cross-Sectional Statistical Models and Task Standardization for Sorting Experiments to Identify Configurational Changes in Children's Development of Concepts
Principal Staff:	Professor David Wiley, W. Bramble, W. Keesling, W. Schmidt
Purpose, objective, or goals:	To create some statistical tools for a particular study of the child's development of conceptual categories.
Importance, need, or justification:	Most of the methods now used for the analysis of data in this research area are extremely primitive. New ones are required for the acceleration of the systematic advancement of knowledge.
Method, strategy, or design:	Much of the work in this problem area is mathematical and statistical and requires the development of computer programs with illustrative analyses of existing data. Some of it, however, will require the collection of new data and the application to it of new methodological techniques.
Characteristics of the users and sample:	Sample: Preschool and primary grade children constitute the sample population. Users: Users of the techniques developed will be research workers in the appropriate substantive fields.
Expected end products of results:	The speech and papers listed in the "Flow Chart" section below are the now-known end products of the research in this project and will be planned and executed in accordance with the user audiences most likely to benefit.
Evaluation procedures:	The models being developed will be evaluated by confirmation of their utility or fit with real data.

Relationship to other center projects and center focus:

The concept development aspects of this project are related to several activities in Program G-B and collaborative efforts are underway between two groups of investigators concerned, spearheaded by Professors Wiley and Hass. In addition, Program G-D personnel, including Professor Jackson, have shared responsibilities within the Nursery School project with Professor Wiley and his associates. More generally, the development of new methodological tools for longitudinal research is relevant to all of the centers within the National Laboratory as well as to the field at large.

Flow chart, time schedule:

During the present contract period, the following major vehicles of dissemination have been projected constituting a flow chart of progress points in the research activities:

February, 1969--AERA paper on concept development in children over time
April, 1969--Psychometric Society paper
November, 1969--Draft of formal paper on longitudinal models

CORNELL RESEARCH PROGRAM IN EARLY CHILDHOOD EDUCATION

70706-C

Number	Program, Activity/Project Title	Principal Investigator
C-A	Administration	Henry Ricciuti
C-B	Curriculum Development and Early School Learning	
-BA	Development of Preschool Diagnostic and Teaching Procedures	Laurel Hodgden
-BB	Facilitating the Development of Syntactic Structures	Marion H. Potts
-BC	Early Learning in the Kindergarten	Herbert Ginsburg
-BD	Analysis of Artistic Behavior in Young Children	W. L. Brittain
C-C	Analysis and Modification of Home Teaching Environments	
-CA	Analysis and Modification of Maternal Teaching Strategies in Rural Poor Families	Margaret Parkman-Ray Helen T. M. Bayer
-CB	Influence of Systematic Story Reading by Teenagers and Adults on Language Development of Disadvantaged Two-Year-Olds	John S. Harding
C-D	Cognitive and Emotional Development in Infancy	Henry Ricciuti
-DA	Analysis of Emotional Behavior and Development in the First Year	Henry Ricciuti

CORNELL RESEARCH PROGRAM IN EARLY CHILDHOOD EDUCATION

C-B

Title:	Curriculum Development and Early School Learning
Principal Staff:	Laurel Hodgden, Marion Potts, Herbert Ginsburg, W. Lambert Brittain, Principal Investigators.
Purpose, objective, or goals:	Broad aims of this program center upon the assessment and analysis of a number of intellectual, learning, and problem solving processes and characteristics in preschool and kindergarten-age children as background for the development of curriculum materials and teaching strategies which can be geared to the "diagnosed" needs of individual children in preschool settings.
Importance, need, or justification:	To develop effective curriculum materials and programs appropriate for preschool children, much more basic knowledge is needed concerning significant cognitive and learning processes as these operate in the classroom setting. At the same time, teachers need simple diagnostic techniques for assessing the status of individual children, along with closely related curriculum suggestions and guidelines. Systematic experimentation with specific methods for facilitating learning in particular areas, such as the development of syntactic structures, is also very much needed.
Method, strategy, or design:	The four projects presently constituting this program involve. A. Development of diagnostic procedures for use by teachers in assessing specific characteristics of preschool children, to be incorporated in a manual with specific curriculum and teaching

Method, strategy, or design (Continued)	suggestions, which will then be subjected to "field testing" by teachers. B. An experimental comparison of several methods of teaching syntactic structures to disadvantaged four-year-olds. C. An ecologically oriented analysis of reading, writing and verbal behavior in a "progressive" kindergarten setting, with heavy emphasis on detailed naturalistic observations. D. Detailed observations of children's artistic behavior in structured preschool situations.
Characteristics of the sample:	Three-, four-, and five-year old children, Caucasian and Negro, mostly working-class and poor children, urban and rural; also some children from professional families; all enrolled in preschool programs of various sorts. Potential users of curriculum materials and techniques, diagnostic procedures, etc., are preschool and kindergarten teachers, teacher aides, preschool program administrators, etc.
Expected end products of results:	Technical research reports, reports for dissemination to early childhood education "consumers"; manual containing diagnostic procedures and teaching guidelines for preschool and kindergarten teachers; curriculum guidelines in regard to language training; observational and coding procedures for analysis of intellectual and learning activities in preschool settings.
Evaluation procedures:	See "Method" above, and project summaries.
Relationship to other center projects and center focus:	This program area represents one of three major foci of the Cornell Research Program in Early Childhood Education. While the major emphasis of this particular program is upon the analysis and facilitation of learning in preschool settings, it will eventually be necessary to examine the actual and potential inter-play between

Relationship to other center projects and center focus:	these school based programs and home tutoring programs at the same age levels (Project C-CA), and those which begin at earlier ages (Project C-CB, Program C-D).
Flow chart, time schedule:	See Project Summaries.
Linkage of activities within program:	While the four projects within the program were originally initiated as independent research endeavors, there are obvious over-lapping research concerns and interests which are beginning to be explored, beyond mere exchange of information among investigators. For example, some of Brittain's analyses of artistic behavior will be done in the rural kindergarten setting being created by Ginsburg, and will contribute curriculum guidelines for that setting. Similarly, Potts' language training project may well produce teaching suggestions which could be incorporated in Hodgden's teaching manual, etc.

CORNELL RESEARCH PROGRAM IN EARLY CHILDHOOD EDUCATION

C-BA

Title: Development of Preschool Diagnostic and Teaching Procedures

Principal Staff: Laurel Hodgden, Principal Investigator; Judy Koetter and Beverly Laforse, Research Associates; one research assistant.

Purpose, objective, or goals: The primary goal of the project is to prepare a manual containing diagnostic procedures suitable for use by individual nursery school or kindergarten teachers to judge the status of their children across a broad range of abilities and concepts. This manual also will contain curriculum materials and guidelines keyed to the diagnostic procedures.

Importance, need, or justification: As a result of observations in many Head Start programs, public school pre-kindergartens and private nursery schools, the conclusion was reached that the most immediate need of the individual teacher in such classrooms was a technique for assessing the status of her children, both as individuals and as a group in order to make curriculum planning appropriate to their needs. Second, because of inadequate training many teachers lacked a range of suitable activities or resource materials to use in implementing curriculum planning. Hence, the primary focus of this project is to provide a framework which will make it easier for teachers to assess and meet the immediate and actual needs of their children. The approach thus stresses the individuality of the learner.

Method, strategy, or design: The general research plan involves four major steps: The first involved a preliminary investigation of many of the areas to be covered in the manual, working out general approaches, and obtaining

Method, strategy, or design (Continued)	normative data in some areas. Second, the tests to be used by the teachers were carefully set up and pre-tested by members of the project staff. Third, the tests will be used by teachers in the field to determine general usefulness, desirable modifications and procedure and directions, etc. Fourth, curriculum materials cued to the tests will be gathered and prepared for master teachers currently working with preschoolers.
Characteristics of the sample:	The children used in the preliminary testing numbered over sixty three- and four-year-olds from professional, working and lower class levels, both Caucasian and Negro. Subsequent pre-testing has been carried out on three- and four-year-olds from two day care centers serving a range of class levels. As previously noted the eventual users will be teachers in the field, working with three-, four-, and possibly five-year-olds.
Expected end products of results:	Of most importance is the diagnostic-teaching manual for the use of teachers. As a by-product, a report on normative data on several areas of concept formation is being prepared.
Evaluation procedures:	The present phase of the research does not include formal evaluation procedures for assessing the value of the manual in terms of pupil learning. However, it is anticipated that this type of evaluation will be done at a later date (1970-72). In the meantime, as noted, the usefulness of the manual in the field will be assessed primarily through observations of teachers and through teachers' judgments.
Relationship to other center projects and center focus:	Many of the teaching guidelines and curriculum suggestions will be of direct value in home teaching programs (Program C-C). See Program summary C-B for intra-program relationships.

Flow chart, time schedule:

The preliminary report containing normative data will be ready for circulation in January. Pre-testing on all but four tests has been completed (small and large motor tasks, social-emotional and language check-lists and forty concept tasks). The first group of cooperating teachers has been briefed on their use and other cooperating teachers are being recruited. Further, the project is ahead of itself in one respect; since all project members have been or are practicing teachers, many ideas for activities presented themselves in the course of pre-testing and approximately 120 "activity sheets" have already been written.

During the spring and summer, cooperating teachers will be observed and the manual revised accordingly. In the fall of 1969 and the spring of 1970, the master teacher observations for completion of the curriculum portion will be made.

CORNELL RESEARCH PROGRAM IN EARLY CHILDHOOD EDUCATION

C-BB

Title: Facilitating the Development of Syntactic Structures

Principal Staff: Marion H. Potts, Principal Investigator; Margaret M. Cox, Research Associate; two research assistants

Purpose, objective, or goals: To study the relative effects of training in imitation and generalization on the development of syntactic structures in disadvantaged children.

Importance, need, or justification: Much recent research with disadvantaged children documents the fact that they enter school with an array of educational disabilities, among the most severe of which are deficiencies in language usage. This project will provide information on which of the two hypothesized processes is most effective in language training. Such information can then be applied across many methods of language teaching and will permit the design of specific techniques for use with disadvantaged children.

Method, strategy, or design: Four methods will be combined and contrasted in the study: imitation, generalization, imitation with generalization, and exposure to language without required imitation or generalization. Ss will be randomized into four groups:

1. Imitation with generalization
2. No imitation with generalization
3. Imitation with no generalization
4. Exposure: no required imitation or generalization.

A tutor will work with the subjects daily for 15 minutes in groups of two with rotation of the dyads to avoid the interaction effects of a stable group.

Characteristics of the sample:	Four-year-old disadvantaged integrated rural and urban eastern New York sample, and Mexican-American and Indian sample from Arizona.
Expected end products of results:	1. Preparation of a paper for publication in professional journals 2. Report at research conferences on results of the collaborative research design 3. Preparation of report for dissemination to school systems and preschool program centers.
Evaluation procedures:	Individual measures for language assessment will be developed as outcome criteria including one receptive and two productive tests.
Relationship to other center projects and center focus:	Arizona and Cornell will pool data on exactly the same design and methods. General collaboration in the field of language development will also be carried through with the Centers at Syracuse and Chicago. (See also Program Summary C-B.)
Flow chart, time schedule:	Pre and post testing analysis--January and June, 1968. Language training--February through May, 1969. Report--September, 1969

CORNELL RESEARCH PROGRAM IN EARLY CHILDHOOD EDUCATION

C-BC

Title:	Early Learning in the Kindergarten
Principal Staff:	Herbert Ginsburg, Principal Investigator; Edward Tulis, Research Associate; two research assistants
Purpose, objective, or goals:	The aim is a detailed investigation of a broad range of significant intellectual activities in children attending a kindergarten designed to maximize the elicitation of such behaviors in spontaneous, largely self-directed activites. The project is concerned both with greater theoretical understanding of cognitive processes involved in classroom learning, and with the design of optimal classroom environments. Special emphasis is currently placed upon the analysis of how children learn to write; assuming sufficient resources are available, studies of verbal behavior and communication will also be undertaken.
Importance, need, or justification:	Little or nothing is known about the acquisition of writing skills in young children, and about many intellectual activities which take place in the school learning situation. Similarly, there is great need to develop more sophisticated methodologies for analysis of intellectual and learning functions in the "natural" school setting. Increased understanding of these functions should provide a basis for more effective curriculum development and planning.
Method, strategy, or design:	A first and continuing concern has been the construction and maintenance of an interesting "progressive" kindergarten classroom, in a rural public school setting. Writing (printing) is "taught" by giving children notebooks and pens and allowing them to learn to write whenever they please.

Method, strategy, or design (Continued)	The aim of this part of the research is to discover what, how, and why children learn to write under such circumstances. The design is primarily observational, and involves two sources of evidence. The notebook productions of each child can be scored so as to determine what is written, whether the printing improves over time, etc. The second source is an observational record of children's writing behavior, yielding information on amount of time spent copying and producing letters, checking the production against a model, sounding the letters at the time they are written, etc. These data should provide evidence on what is learned, on the process of learning, and on motivation for learning to write. In the case of verbal behavior and communication, TV tapes will be made and analyzed.
Characteristics of the sample:	Five-year-old, rural poor white children in a kindergarten classroom, mostly five-year-olds.
Expected end products of results:	Observational and coding procedures for investigating writing and other intellectual and learning activities in the classroom; technical reports; suggestions and guidelines for establishing intellectually stimulating progressive kindergarten environment.
Evaluation procedures:	See "Method" above.
Relationship to other center projects and center focus:	See Program Summary C-B.
Flow chart, time schedule:	The spring of 1968 was devoted to planning and exploring the possibilities of doing research in a "progressive" kindergarten. The summer of 1968 was devoted to a preliminary conceptualization of the issues involved, which is a continuing concern. The fall of 1968 was devoted to the development of observational and coding systems,

Flow chart, time schedule (Continued)

and other methods. The winter of 1968 and the spring of 1969 will be devoted to further development of these methods and to extensive data gathering. The summer of 1969 will be devoted to an analysis of the results, with a preliminary report by fall 1969. Further data may need to be collected, beginning in fall of 1969. If resources permit, we will begin preliminary work, in the spring of 1969 on some problems in verbal behavior: the monologue (a child's talking to himself when no one is present); and the collective monologue (unsuccessful verbal interaction among several children). TV equipment provided by the College of Home Economics will be employed in this phase of the research.

CORNELL RESEARCH PROGRAM IN EARLY CHILDHOOD EDUCATION

C-BD

Title: Analysis of Artistic Behavior in Young Children

Principal Staff: W. L. Brittain, Principal Investigator; two research assistants

Purpose, objective, or goals: To gain a greater understanding of the psychological processes involved in the development of various kinds of artistic behavior in young children. Such knowledge should provide a basis for making wiser use of artistic materials and programs in curriculum planning at the preschool and kindergarten levels.

Importance, need, or justification: Although art activities play a large role in nursery schools and Head Start programs, very little is known about the relation of these activities to significant aspects of psychological growth and development in young children. The research underway is seen as providing a basis for a comprehensive theory relating the development of artistic behavior to the child's cognitive, social, and emotional growth, thus facilitating a more effective utilization of art activities in preschool programs.

Method, strategy, or design: In order to explore a number of methodological approaches to the complex problem of understanding children's artistic behavior, and to generate hypotheses which can subsequently be tested more formally, a number of small studies have been underway or are in the planning stages. These include a study of the influence of practice upon square-making abilities of preschool children; a comparison of products of two- and three-dimensional materials; an analysis of changes that take place in the drawings of kindergarten children as they establish visual forms in their drawings, etc.

Characteristics of the sample:	Mainly four- and five-year-old children in various preschool and kindergarten settings, both professional and poor children, urban and rural.
Expected end products of results:	Technical reports prepared for art educators, preschool teachers and administrators, etc.; eventually, guidelines for use by teachers in planning art activities for preschool children.
Evaluation procedures:	See "Method" above.
Relationship to other center projects and center focus:	As further insight develops into the significance of various types of artistic behavior, it may be possible to incorporate selected art activities into some of the home tutoring programs. (See Program Summary C-B for linkages to other curriculum development projects.) Continued exchange of ideas and findings with the Syracuse Center is contemplated, because of their interest in preschool art activities.
Flow chart, time schedule:	It is anticipated that the study of the influence of practice in square making will be completed, with a report, by June, 1969. The comparison of two- and three-dimensional work should be completed by December, 1969, and the documentation of kindergarten children's art strategies by June, 1970. It is hoped also that some specific curriculum recommendations will be forthcoming by fall 1969.

CORNELL RESEARCH PROGRAM IN EARLY CHILDHOOD EDUCATION

C-C

Title: Analysis and Modification of Home Teaching Environments

Principal Staff: Margaret Parkman-Ray, Helen T.M. Bayer, John S. Harding, Principal Investigators; (4 research associates)

Purpose, objective, or goals:

1. To analyze more precisely the home learning environment of four-year-old children from isolated, rural, poor white families, and to develop home teaching programs aimed at improving mothers' effectiveness in facilitating the educational development of their children.
2. To develop and evaluate the effectiveness of home tutoring programs aimed at facilitating language development of two-year-old disadvantaged children through systematic story reading by teenage and adult story readers.

Importance, need, or justification: It is generally recognized that poor children living in isolated rural areas, and urban poor children from various ethnic minorities enter the public school system at a considerable disadvantage because of restricted opportunities for learning, intellectual, and language development in the home should facilitate young children's psychological development, and improve learning and performance in the school situation.

Method, strategy, or design: One study (C-CA) has focused on an analysis of the home environments of isolated rural poor white families through systematic interviews and observations of mother-child pairs in structured situations. A series of play materials, games, and other activities were then developed, and through a program of weekly home visits, they were introduced

Method, strategy, or design (Continued)	to and modeled for the mother and child, and left in the home. Effects of the program are to be compared for 12 experimental and 12 control families. A second study (C-CB) employs brief daily home visits by teenage or adult visitors who read story books and play language games with two-year-old children in order to stimulate language development and usage. Age and race of story readers, race and sex of children, and duration of reading programs are factors under investigation.
Characteristics of the sample:	Mothers and four-year-olds in isolated rural intact poor white families; also, poor children in Ithaca area age 17-33 months, about 60% Negro and 40% white.
Expected end products of results:	Program for four-year-olds; interview procedures, structured mother-child interaction situations, preliminary teaching materials, technical reports; program for two-year-olds; research reports, story reading "program package" which might be employed in other communities or action programs.
Evaluation procedures:	Pre- and post-program test data on treatment and control groups; coded observations of mothers and four-year-olds; interviews with mothers of two-year-olds, taped speech samples of some two-year-olds.
Relationship to other center projects and center focus:	See Program Summaries C-B and C-D, Project Summaries C-CA and C-CB.
Flow chart, time schedule:	See Project Summaries C-CA and C-CB.
Linkage of Activities within Program:	While the two projects consituting this program are both concerned with home tutoring or intervention procedures, they differ in regard to the age of target

Linkage of Activities within Program (Continued)

children, and in the type of intervention programs employed. Consequently, there has been relatively little interplay between the two projects thus far. Clearly, however, as the intervention procedures are more fully developed and evaluated, there will be need to examine the matter of optimal inter-meshing and continuity of home tutoring programs aimed at children over the age span from two to five years.

CORNELL RESEARCH PROGRAM IN EARLY CHILDHOOD EDUCATION

C-CA

Title:	Analysis and Modification of Maternal Teaching Strategies in Rural Poor Families
Principal Staff:	Margaret Parkman-Ray and Helen T. M. Bayer, Principal Investigators; Barbara Engst, Polly Gibbons, and Deborah Levirne, Research Associates; one research assistant
Purpose, objective, or goals:	1. To provide a more precise characterization of the differences between the home environments of middle-class children and children of the isolated rural intact poor white family. 2. To create a program designed to help the mother acquire the teaching skills which will enable her to participate more effectively in the educational development of her child.
Importance, need, or justification:	Rural poor children are handicapped in their school adjustment by the impoverishment of the learning experiences available in their home environment. It is hoped that enrichment during the preschool period will improve their initial and subsequent school performance.
Method, strategy, or design:	During weekly home visits, a series of specially created or adapted games, songs, and activities are introduced to and modeled for the mother and child, and left in the home. We are conducting pre- and post-tests to assess the effectiveness of our program, comparing 12 experimental and 12 control families.
Characteristics of the sample:	Our sample consists of the mother and four-year-old in 24 families meeting the following criteria: mother's age is less than or equal to 35 years; number of children is between 3 and 7; income is less than $130

Characteristics of the sample (Continued)

take home weekly; child's birthdate is between 12-15-63 and 12-15-64; no parent has more than a 12th grade education, and no more than one parent in any family has this 12th grade education; stated value of house (if buying) is less than or equal to $12, 000; the mother is not working full-time during the day; the family does not own a farm; white; intact.

Expected end products of results:

At this point we are concerned mainly with demonstrating some effectiveness in our techniques for increasing the mothers' skill in teaching her child in order to justify the much more comprehensive evaluation necessary for wide-scale use of our program. Specific products: structured interview procedure and structured mother-child interaction situations, preliminary teaching materials, technical reports.

Evaluation procedures:

We are comparing the following pre-post data: Peabody Picture Vocabulary Test on child; Wechsler Adult Intelligence Scale on mother, Wechsler Intelligence Scale on child; and coded observations from video-tapes of structured situations, (e.g., we ask the mother to make a clay pig and to have her have her child make one, we ask the mother to read a storybook she has not seen (we developed it) to her child, we ask the mother to take an imaginary trip with her child on a tripboard of a rural countryside, where they can stop and look at anything along the way); also, an interview schedule of mother.

Relationship to other center projects and center focus:

In many respects this project, which is concerned with helping to make the mother a better teacher of her preschool child, parallels the projects in the Curriculum Development and Early School Learning program. Techniques developed for home use can profitably be tried in school situations, and vice versa. Eventually, we

Relationship to other center projects and center focus: (Continued)

will need to examine the question of optimal inter-meshing of school-based and home-based teaching programs for preschool children.

Flow chart, time schedule:

December 1, 1968 to January 17, 1969--
gathering pre-test data on our sample.
January 19, 1969 to June 20, 1969--
weekly home visits to our 12 experimental families.
June 22, 1969 to July 18, 1969--
gathering post-test data on our sample.
July 21, 1969 to August 15, 1969--
pre-post IQ data analysis
August 15, 1969 to November 28, 1969--
analysis of at least one structured situation
December 1, 1969 to August 15, 1970--
finish all analysis of pre-post data; write-up of program and analysis of results.

CORNELL RESEARCH PROGRAM IN EARLY CHILDHOOD EDUCATION

C-CB

Title: Influence of Systematic Story Reading by Teenagers and Adults on Language Development of Disadvantaged Two-Year-Olds

Principal Staff: John S. Harding, Principal Investigator; Eleanor D. Macklin, Research Associate; two research assistants

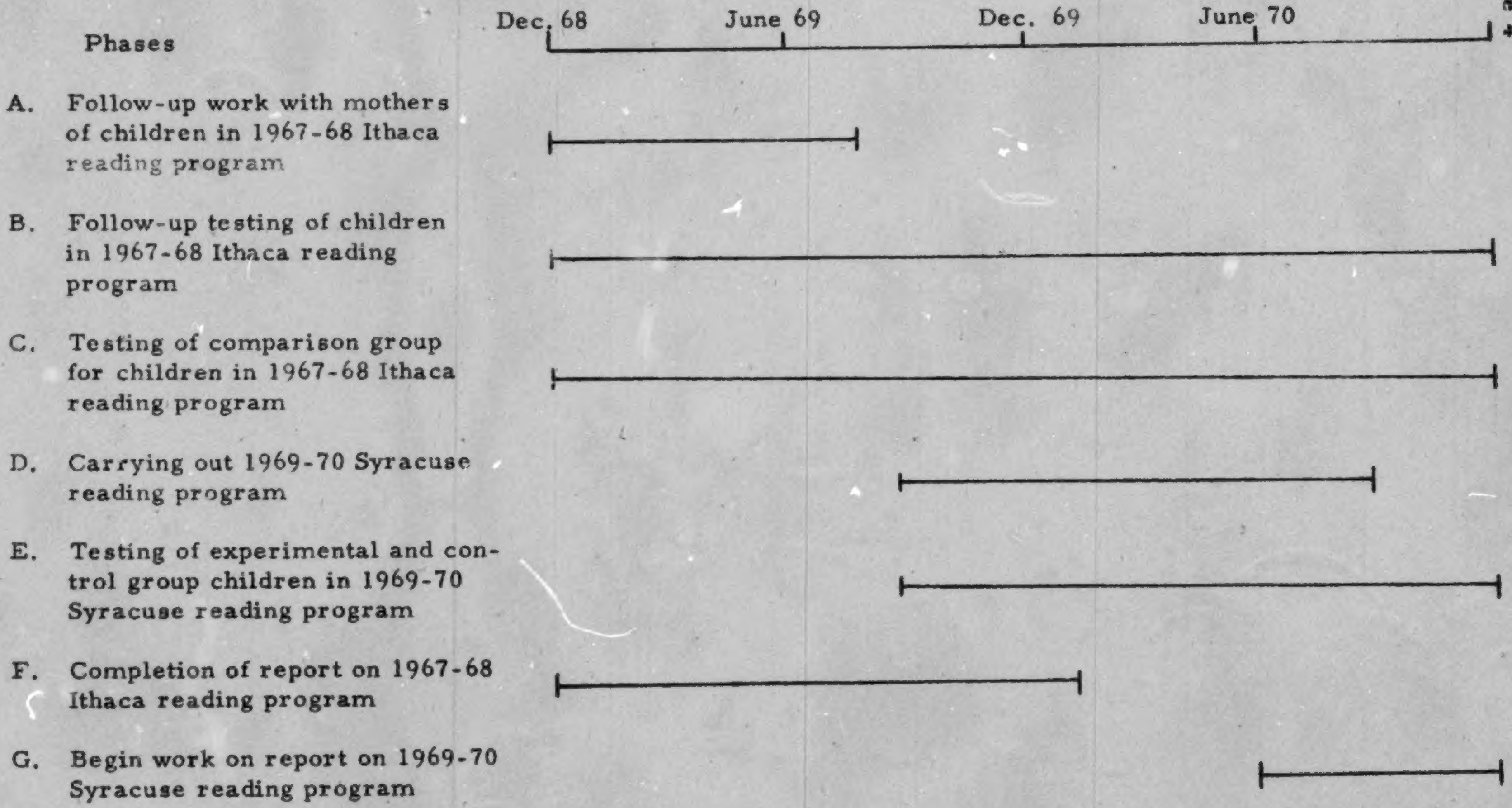
Purpose, objective, or goals: The general goal is to learn as much as possible about the effects of systematic story reading on young disadvantaged children, especially on their language development, with the specific aim of developing story reading "programs" which can be employed to facilitate such language development. The basic general hypothesis is that it is possible to produce a substantial and lasting increase in the pace of language development in these children through a program in which an older individual comes to the child with attractive materials and an encouraging teaching style, beginning when the child is around two years old. Most of the specific questions studied are questions about the relative effectiveness of variations in the basic "action program."
A long term concern is inducing mothers to carry on various forms of language encouragement after termination of the formal reading program.

Importance, need, or justification: It is known that retarded language development is characteristic of poor children in the United States, especially poor children from ethnic minorities such as Negroes, Puerto Ricans, Indians, etc. Slow language development places the poor child at a tremendous disadvantage in the American school system, and is one of the principal factors responsible for characteristically

Importance, need, or justification (Continued)	inferior school performance. It is also known that systematic stimulation of language development in young children is comparatively rare in lower-class homes, in contrast to middle-class homes. Thus facilitation of language development is an obvious goal for an intervention program.
Method, strategy, or design:	The research is designed around an action program with some constant features and some variable ones. The constant features include: a one-to-one relationship between child and female story reader who makes brief daily house visits for at least 3 months; use of simple toys, and conversation to attract child's interest in early phases of program, with gradually increasing emphasis on story reading; questioning of child and verbal reinforcement of language responses at all stages of the program. Variable features of the program whose effects are under investigation are: 1. age and race of story reader 2. length of reading program 3. race and sex of children
Characteristics of the sample:	Poor children in Ithaca area, age 17-33 months, about 60% Negro and 40% white. In the fall of 1969 we expect to begin work in Syracuse with an all-black population.
Expected end products of results:	Research reports; also a "program package" we can recommend to other communities with detailed information about probable cost and probable benefits.
Evaluation procedures:	Systematic before-and-after testing of children in experimental and matched comparison groups; interviews with mothers of experimental and comparison group children and taped speech samples of children in some groups.

Relationship to other center projects and center focus:	See Program Summary C-D re facilitation of infant development, etc. Eventually, may be possible to explore optimal intermeshing of home-based tutoring programs before age three with school-based prekindergarten programs. See Program Summary C-C for intra-program relationships.
Flow chart, time schedule:	Attached.

CORNELL RESEARCH PROGRAM IN EARLY CHILDHOOD EDUCATION
Project: Influence of Systematic Story Reading by Teenagers and Adults on Language Development of Disadvantaged Two-Year-Olds



Phases

A. Follow-up work with mothers of children in 1967-68 Ithaca reading program

B. Follow-up testing of children in 1967-68 Ithaca reading program

C. Testing of comparison group for children in 1967-68 Ithaca reading program

D. Carrying out 1969-70 Syracuse reading program

E. Testing of experimental and control group children in 1969-70 Syracuse reading program

F. Completion of report on 1967-68 Ithaca reading program

G. Begin work on report on 1969-70 Syracuse reading program

CORNELL RESEARCH PROGRAM IN EARLY CHILDHOOD EDUCATION

C-D

Title: Cognitive and Emotional Development in Infancy

Principal Staff: Henry N. Ricciuti, Principal Investigator; Robert Poresky, Research Associate; two research assistants

Purpose, objective, or goals:

1. To develop a conceptual framework and experimental procedures for more precise assessment of infants' emotional and orienting responses to a variety of stimulus situations, with particular references to developmental changes in responses to stimuli varying in incongruity or strangeness.
2. To explore the nature and stability of individual differences in such response characteristics, as well as their relationship to previous experience.
3. To investigate inter-relationships between emotional or arousal characteristics in the infant, and the development of learning, problem solving, and other cognitive behaviors.
4. Development of guidelines and procedures for facilitating infant development in specified functional areas, through systematic experiential modification.

Importance, need, or justification: There is great need for further understanding of the nature and development of emotional behavior in infancy, and of the manner in which such response processes interrelate with perceptual-cognitive and learning functions, both on a short-term and long-term basis. Clarification of the influence of previous experience on emotional response characteristics is important for theoretical reasons, and as background for environmental modification studies.

Method, strategy, or design:	Initial studies focus on elicitation and analysis of a variety of emotional responses in infants, using systematically varied stimulus situations in the laboratory. Detailed analyses of TV tape recordings provide major behavioral data, while home visits and interviews provide data on previous experience and environment. Subsequent studies will involve primarily systematic laboratory-type assessments of infant behavior and "manipulation" of infant experience.
Characteristics of the sample:	Initial studies focus mainly on middle-class infants, 3 to 15 months of age. Subsequent studies will employ samples of infants from more varied environmental backgrounds, including urban and rural poor families, and infants with history of malnutrition, from 3 to 24 months of age.
Expected end products of results:	Rating and coding procedures for assessment of salient emotional response characteristics in infants; interview schedule for analysis of home environment and previous behavior patterns; technical reports; guidelines for programs aimed at facilitating infant development.
Evaluation procedures:	See "Method" above.
Relationship to other center projects and center focus:	Long term follow-up of sub-sample will permit examination of relationship of emotional characteristics observed in infancy to salient behavioral characteristics identified subsequently at preschool level. More generally, emotional response variables identified may be important as subject characteristics influencing differential response to intervention techniques aimed at modifying maternal teaching styles. Also, it may eventually be possible to examine optimal "meshing" of infant stimulation programs in group care settings with later home tutoring programs.

Flow chart, time schedule: Attached.

Linkage of activities within program: See "Purpose and Objectives" and time schedule attached.

CORNELL RESEARCH PROGRAM IN EARLY CHILDHOOD EDUCATION

Program: Cognitive and Emotional Development in Infancy

Phases

Study Area 1

Development of conceptual framework, assessment procedures--

Pre-testing physiological measures

Developmental changes in emotional responses to four stimulus situations, 3-12 months

Stability of emotional response patterns

--over 3 months

--long term stability

Study Area 2

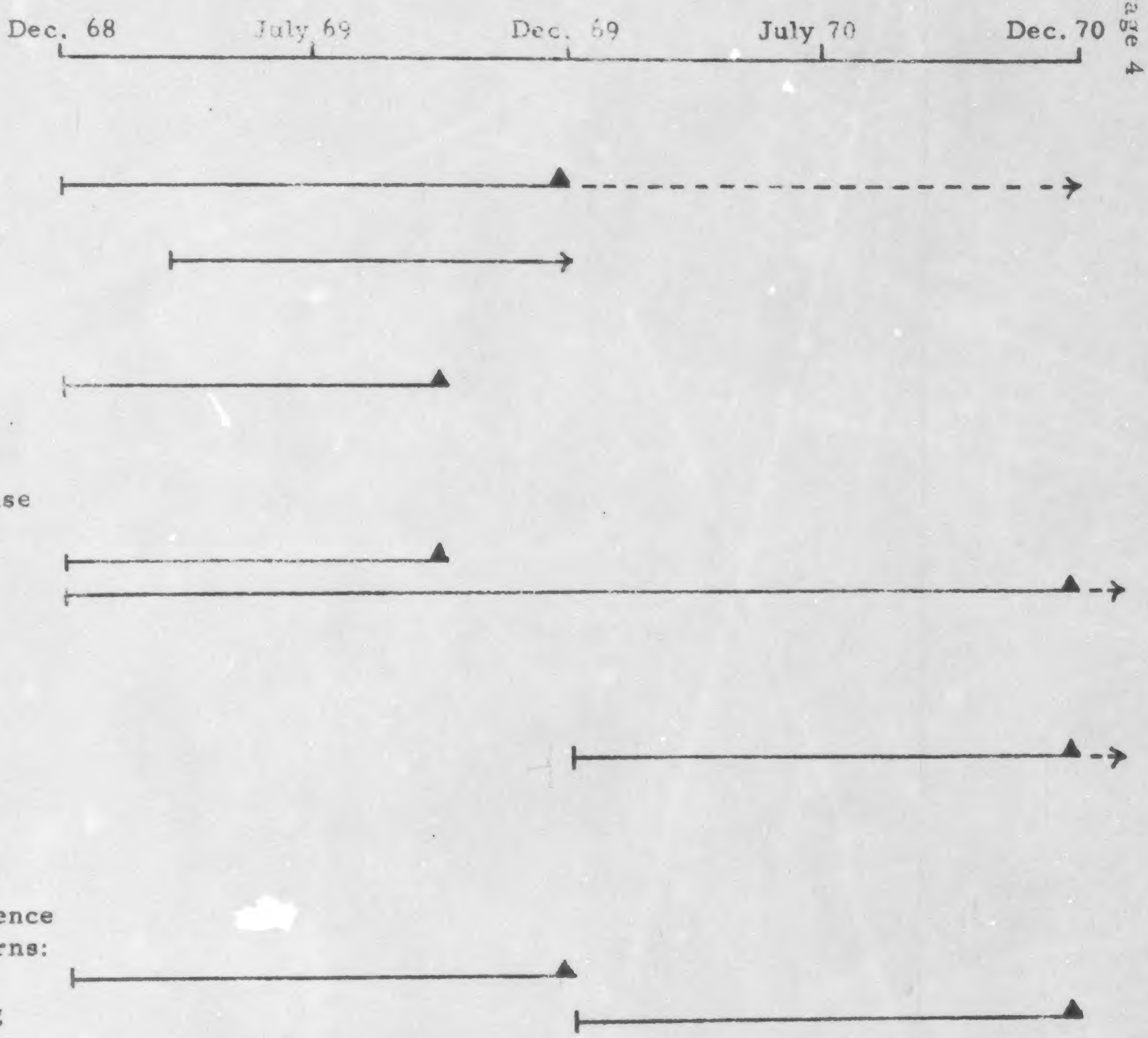
Emotional responses to incongruous or strange stimuli

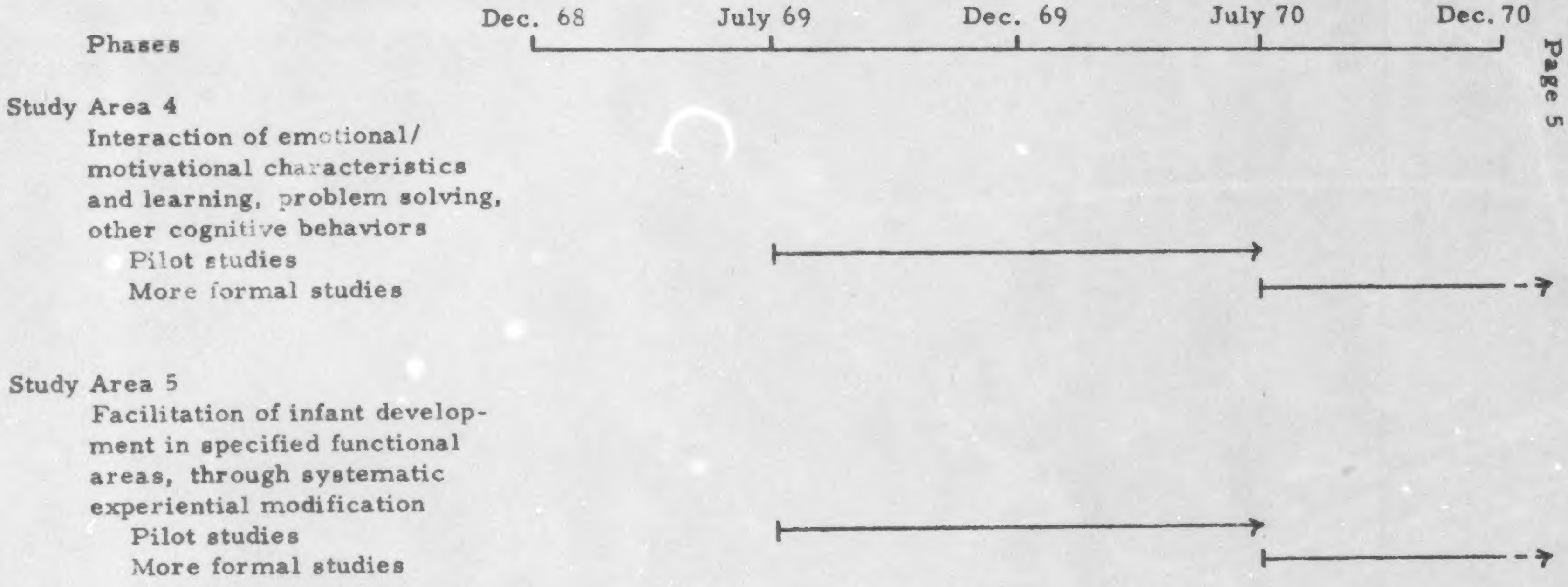
Study Area 3

Influence of previous experience on emotional response patterns:

Preliminary study

Second study, contrasting major group differences





Phases

Study Area 4
Interaction of emotional/motivational characteristics and learning, problem solving, other cognitive behaviors
Pilot studies
More formal studies

Study Area 5
Facilitation of infant development in specified functional areas, through systematic experiential modification
Pilot studies
More formal studies

CORNELL RESEARCH PROGRAM IN EARLY CHILDHOOD EDUCATION

C-DA

Title: Analysis of Emotional Behavior and Development in the First Year

Principal Staff: Henry N. Ricciuti, Principal Investigator; Robert Poresky, Research Associate; two research assistants

Purpose, objective, or goals:

1. To identify more precisely and clarify conceptually those responses and response patterns regarded as significant indicators of infants' orientation toward and affective responses to four selected stimulus situations.
2. To examine developmental changes in these responses from 3 to 12 months of age.
3. To make preliminary analyses of the stability of these response characteristics after a 3 month interval, and of their relationship to previous experience.

Importance, need, or justification: One of the main problems in research on emotional behavior in infancy is our difficulty in specifying conceptually the salient ingredients or components of emotional responses, and in identifying appropriate behavioral indicators of these responses which can be employed for measurement purposes. These issues represent the main concern of this particular project. (See also Program Summary C-D.)

Method, strategy, or design: Four stimulus situations in the laboratory are employed to elicit a variety of emotional behaviors in 32 infants, 8 each at ages 3, 6, 9, and 12 months. Detailed analyses of TV tape recordings are made to assess three essential behavioral characteristics: approach-withdrawal or "directional" qualities, arousal or activation characteristics,

Method, strategy, or design (Continued)	and pleasure-displeasure or hedonic qualities. One-half the sample of each age are retested after 3 months, and home visits provide preliminary data on previous experience and environment.
Characteristics of the sample:	Primarily Caucasian, middle-class normal infants volunteered by parents.
Expected end products of results:	Coding and rating procedures for assessing emotional responses, home interview schedule for analysis of home environment, several technical reports presenting results.
Evaluation Procedures:	See "Method" above.
Relationship to other center projects and center focus:	See Program Summary C-D.
Flow chart, time schedule:	Attached.

CORNELL RESEARCH PROGRAM IN EARLY CHILDHOOD EDUCATION

Project: Analysis of Emotional Behavior and Development in the First Year

Phases	Dec. 68	July 69	Dec. 69
Development of conceptual framework, assessment procedures	├────	────	──→
Completion of 1st testing on 32 cases, coding on overall ratings	Feb. 15		
Completion of re-testing on 16 cases, coding on overall ratings	Apr. 15		
Completion of home interviews	Mar. 15		
Analysis of developmental changes, overall ratings		Sept. 15	
Detailed analysis of responses and response patterns			Dec. 69
Analysis of 3 month stability, overall ratings		Sept. 15	
Analysis of relationships to previous experience			Dec. 69

KANSAS CENTER FOR RESEARCH IN EARLY CHILDHOOD EDUCATION

70706-K

Number	Program, Activity/Project Title	Principal Investigator
K-A	Individual Differences in Infant Learning and Development	Frances Horowitz
K-B	The Use of Programming Procedures in the Development of Preacademic Intellectual Skills for Children 15 months to 5 Years	Barbara C. Etzel
K-C	Studies of Language Learning and Language Competency	
-CA	Mnemonics in Paired-Associate Learning	Hayne W. Reese
-CB	Measurement of 'spontaneous speech' vocabularies of poverty Negro and middle-class white preschool children	Todd R. Risley
-CC	The Role of Auditory Stimuli in a Remedial Reading Program for Primary Level Disadvantaged Children	Montrose Wolf
K-D	Acquisition and Performance of Regulatory Social Responses	Howard Rosenfeld
K-E	A Study of the Ecological Reinforcers of the Preschool Environment	Donald M. Baer
K-F	Administration	Barbara C. Etzel

KANSAS CENTER FOR RESEARCH IN EARLY CHILDHOOD EDUCATION

K-A

Title:	Individual Differences in Infant Learning and Development
Principal Staff:	Frances Horowitz, principal investigator Lucile Paden, Kala Bhana (supported by KU grant), Elizabeth Boyd, Ronald Mann, Robert Aitchison, and Mary Ellen Mann
Purpose, objective, or goals:	To discover the modes and dimensions of environmental stimulation which are involved in early infant learning, to describe the amount and extent of stable individual differences in response to stimulation and to demonstrate the functional relationships which exist.
Importance, need, or justification:	This will help us understand early response acquisition, provide tools for individual assessment, and offer an avenue for prevention of some kinds of slow or retarded development.
Method, strategy, or design:	Longitudinal and cross sectional experimental manipulation of visual experience for purpose of getting visual preferences, fixation durations and strategies of infant control of stimulation.
Characteristics of the sample:	Infants 3-14 weeks of age in present study. Age will increase as study progresses.
Expected end products of results:	Assessment procedures for identifying individual response characteristics to stimulation. Procedures for enhancing responses of acquisition.
Evaluation procedures:	Will evaluate the knowledge in terms of whether or not it yields functional control over rate of response acquisition.

Relationship to other Center projects and Center focus:	Relates to infant work at Cornell and Chicago. At Kansas, it relates to Etzel and Rosenfield interests. Longitudinals relate to all projects.
Flow chart, time schedule:	Conclude checkerboard stimuli study by January, 1969. Start habituation study in December, 1968. Begin systematic intake of longitudinals January, 1969.

KANSAS CENTER FOR RESEARCH IN EARLY CHILDHOOD EDUCATION

K-B

Title: The Use of Programming Procedures in the Development of Preacademic Intellectual Skills for Children 15 months to 5 Years

Principal Staff:
Dr. Barbara C. Etzel, principal investigator
Mr. Mike Mintz, research assistant
Mr. Wallace Dial, research assistant
Mr. Ken Scott, research assistant and electronic technician

Purpose, objective, or goals:

1. To develop through programming preacademic skills (guessed to be important for success in the first three primary grades) for children who do not demonstrate these behaviors.
2. To develop many assessment procedures for evaluating these skills and the generalization of the behavior.
3. To evaluate how well our guesses are for supplying the child with the appropriate preacademic skills when they have "graduated" to formal schooling.

Importance, need, or justification: At present the usual solution for children who do not appear "ready" for first grade work is to have them repeat kindergarden or have them stay at home for an additional year. This solution is far from satisfactory. These children usually continue to have trouble during their school years. Once we know how to identify and teach these prerequisite behaviors in the preschool years, then primary school teachers should be able to teach what they are supposed to teach: beginning academics.

Method, strategy, or design: All children in several preschool classrooms (from 15 months to 5 years of age) will be pre-tested for a given skill. One-half of

Method, strategy, or design (continued)	those children who do not possess the behavior will be programmed; the other half will receive only the teaching from the natural preschool classroom. The group programmed will be post-tested for the behavior and for generalization. The other group will be pre-tested again about one month before the end of the school year. Those who do not pass the pre-test will be programmed. This comparison allows us to see how much a child will receive from his natural preschool and home environment as compared to those receiving special programmed instruction.
Characteristics of the sample:	Preschool classrooms from both middle class and Head Start "types" will be used to test the efficiency of the programmed procedures for a variety of children and also to make comparisons regarding generalization of the behaviors between groups.
Expected end products of results:	The expected end product will be a variety of programmed procedures for teaching preacademic skills to preschool children. These procedures will include specific stimulus materials and instructions. Assessment procedures also include pre and post tests and evaluation of generalization. Finally, a further expected end product is the identification of certain preacademic skills found to be functionally relevant for success in the primary grades.
Evaluation procedures:	All evaluations will be in the form of pre and post tests; tests for generalization; post tests for retention (memory); standard readiness tests during first grade; academic behavior during first three grades to include reading, spelling, writing, arithmetic, work papers, etc.

Relationship to other Center projects and Center focus:

The preacademic project will start at 15 months and part of the sample (longitudinal) will pick up from Dr. Horowitz's project. Successful preacademic skills will be used as an index for "postdicting" (blind) the behavior the child demonstrated during the infant project. The focus of the Center is also reflected in this project where behavior modification of preacademic skills is being studied and instigated.

Flow chart, time schedule:

September 1 to November 30: All children (N=40) in two preschool groups (one-half 3 year olds and one-half 4 year olds) were pretested for gross discriminations on a same-different (oddity) test. Of the seven Ss who "failed" the pretest, four were programmed and three are being held under the natural instruction of the preschool classroom until April of 1969. All other children have also received the test for generalization of gross differences; pretest for fine discrimination of the same-different problem; pretest for the generalization of fine discrimination of the same-different problem.

December 1 to May 31: Programming fine discrimination behavior on the same-different problem. Development of apparatus, pre, post, and generalization tests for two other preacademic skills: position abstractions (inside-outside; right-left; top-bottom) and discriminations of three dimensional geometric forms.

June 1 to August 31: Analysis of data on three projects and development of a fourth program.

September 1 to December 1: Testing of fourth program and routine testing and programming of first three programs on "new" Ss in preschool.

KANSAS CENTER FOR RESEARCH IN EARLY CHILDHOOD EDUCATION

K-CA

Title: Studies of language learning and language competency: Mnemonics in paired-associate learning

Principal Staff:
Hayne W. Reese, Principal Investigator
Drenda Farmer, Research Assistant

Purpose, objective, or goals: To study roles of visual imagery and verbal context in learning and retention of verbal materials.

Importance, need, or justification: There is evidence that the deficiency in learning by culturally deprived and intellectually deficient groups is largely attributable to failure to utilize efficient strategies or techniques of learning and retentive capacities. The research being undertaken is designed primarily to provide a baseline or framework against which such groups can be evaluated.

Method, strategy, or design: Every item is presented verbally and visually. In the two control groups the stimulus (line drawings of animals) and response items (line drawings of everyday objects) are presented as separate, isolated elements in both modalities. In Control Group I (which is the same as the control condition used previously) the stimulus item is presented, then after allowing the subject time to anticipate the response, the response item is presented. In Control Group II the procedure is the same except that after the anticipation interval, during which the stimulus alone is presented, the stimulus and response items are presented together.

In the Verbal Context Group, the pictorial materials and procedure are the same as in Control Group II, except that the verbal

Method, strategy, or design (continued)

presentation of the stimulus and response items after the anticipation interval is in the form of a complete sentence that describes an interaction between the stimulus and response items.

In the Imagery Group, the procedure is the same as in Control Group II, except that the visual presentation of the stimulus and response items after the anticipation interval is in a single picture showing an interaction between the stimulus and response items.

Verbal

Visual	Isolated Elements	Interaction
Isolated Elements	Control Groups	Verbal Context
Interaction	Imagery	----

In follow-up work, the nature of the interaction described or pictured will be varied (familiar-bizarre, for example), and the amount of detail included in the pictures of interaction will be varied (line drawings vs. composite photographs, for example).

It is anticipated that there will be no difference between the two control conditions. If there is not, then the first control condition will not be used in the follow-up work, since it is technically less adequate than the second control condition. If there is a difference between these two controls, then the initial follow-up work will be designed to determine the cause of the difference.

Characteristics of the sample:

Normal, middle-class preschoolers, deaf preschoolers, Head-Start type preschoolers.

Expected end products of results:	Body of knowledge about how learned material is stored in memory and retrieved from memory for use. It is possible that a standard test assessing the tendency to use efficient mnemonic systems spontaneously could be developed, but is doubtful that the project will progress to that stage in the first year or so.
Evaluation procedures:	Comparison of experimental and control conditions; comparison of different populations.
Relationship to other Center projects and Center focus:	a. Horowitz: The longitudinal sample will have a dossier from which information about the sensory and attentional capacities of individual children can be obtained. These may be correlated with type of mnemonic processing characteristically used by the child. b. Etzel: It will be possible to identify individual children for whom the experimental group training is ineffective. It would be worthwhile to explore the possibility of developing individual programs in an attempt to "shape" the desired skill in mnemonic processing. c. Risley: Norms obtained will provide a pool of language materials that can be used in the paired-associate learning task, with familiarity and frequency of usage held constant in middle-class and poverty groups. d. Wolf: According to one theory of reading, the meaning of the material is "carried" by evoked imagery. There is, therefore, a direct parallel between the paired-associate conditions under investigation and the study of the role of auditory stimuli in remedial reading programs. That is, in paired-associate learning,

Relationship to other Center projects and Center focus (continued)

the materials can be presented visually with and without simultaneous auditory presentation. If the results of these parallel investigations are parallel, one theoretical implication is that the inferior reading ability of some children reflects a failure of the printed material to evoke imagery, which is, however, evoked by auditory material. If found to be justified by the data, this conclusion would have wide implications for further basic research on paired-associate learning and also for remediation research.

Flow chart, time schedule:

	Study 1	Study 2	Study 3	Study 4
Sept.	Preparation			
Oct.	Data Collection	Apparatus Construction		
Nov.	↓	↓		
Dec.	↓	↓		
Jan.	↓	Data Collection		
Feb.	Data Analysis & Report	↓		
Mar.	↓	↓	Preparation	Preparation
Apr.		Data Analysis & Report	Data Collection	Data Collection
May		↓	↓	↓
June			↓	↓
July			↓	↓
Sept.			Data Analysis & Report	Data Analysis & Report
Oct.			↓	↓
Nov.				

Study 1: Replication Study
Study 2: Deaf Study
Study 3: Study of Variations in Visual Materials (follow-up of Study 1
Study 4: Study of Variations in Auditory Materials

KANSAS CENTER FOR RESEARCH IN EARLY CHILDHOOD EDUCATION

K-CB

Title:	Studies of language learning and language competency: Measurement of 'Spontaneous Speech' Vocabularies of Poverty Negro and Middle-Class White Preschool Children
Principal Staff:	Todd R. Risley, principal investigator Betty Hart, Euenice Williams, Gayle Scriven, Kevin Lynch, Armando Dominguez
Purpose, objective, or goals:	Comparable recording and comparison of the vocabularies, grammar, syntax of the spontaneous speech, etc., of 12 middle-class preschool children enrolled in the K. U. preschools and 12 Negro poverty children enrolled in a preschool in a poverty area of Kansas City, Kansas.
Importance, need, or justification:	To detail aspects of language which differ between the two groups, thereby providing information relevant to language development programs for disadvantaged children.
Method, strategy, or design:	Daily, 15-min. verbatim records of each child's speech are obtained by observers while the children are engaged in free play during preschool. These records are transcribed onto IBM cards and analyzed, utilizing the K. U. computer. Comparison of the summarized data of the two groups will be made at the end of the preschool year.
Characteristics of the sample:	Twenty-four 4-year-old children: 12 white, middle-class, from university environs; and 12 Negro poverty children.
Evaluation procedures:	Detailed reliability measures of language records obtained by occasional simultaneous observations of individual children by two observers. All observers at either preschool will simultaneously observe with each other observer several times during the year.

Relationship to other Center projects and Center focus:

This study fits in with the general orientation of the Center with regard to experimental analysis of behavior modification. Portions of the longitudinal population used in other Center projects will be studied with reference to vocabulary, grammar, syntax and other related aspects of language acquisition and development.

Flow chart, time schedule:

Speech samples of all children in both groups have been obtained each preschool day (except absences) since September 23. For reliability measures, approximately 50 simultaneous observations have been made by pairs of observers within each preschool and 12 have been made by pairs of observers, from the two preschools. Transcription of data and computer summarization are proceeding on schedule.

KANSAS CENTER FOR RESEARCH IN EARLY CHILDHOOD EDUCATION

K-CC

Title:	Studies of language learning and language competency: The role of auditory stimuli in a remedial reading program for primary level disadvantaged children
Principal Staff:	Montrose Wolf, principal investigator Betty Jean Chaney and Mike Davis, research assistants
Purpose, objective, or goals:	To develop and evaluate a reading program, including supplemental auditory assistance, for teaching reading to primary level disadvantaged children.
Importance, need, or justification:	Disadvantaged children generally are retarded in reading ability. A better method of teaching these children to read is essential.
Method, strategy, or design:	A combination of experimental-control groups and baseline strategies will be used.
Characteristics of the sample:	Primary grade children from low-income families in the poverty area of Kansas City, Kansas.
Expected end products of results:	a. An understanding of the role which auditory assistance can have in a reading program. b. A reading program and method of presentation.
Evaluation procedures:	An experimental group and a comparison group will be given pre and post achievement tests. Both groups will also be given repeated (weekly) forms of the CAT achievement tests to establish a stable pre-treatment baseline and comparison baseline against which progress in the experimental group can be based.

Relationship to other Center projects and Center focus:	This research has several dimensions which relate to the Center. It represents research in the role of auditory assistance in programmed instruction; assessment of characteristics of disadvantaged children; programmed reading.
Flow chart, time schedule:	a. September 1968-December 1968: Program development and apparatus construction. b. January 1969-September 1969: Experimental and control subjects pre-tested, run in the program and post-tested. c. October 1969-November 1969: Data analyzed and the final report written.

KANSAS CENTER FOR RESEARCH IN EARLY CHILDHOOD EDUCATION

K-D

Title:	Acquisition and Performance of Regulatory Social Responses
Principal Staff:	Howard Rosenfeld, principal investigator John Trewolla, technical assistant Pamela Gunnell, Dick Levin, research assistants; Virginia Sullwold, NIMH trainee
Purpose, objective, or goals:	a. Design, select and purchase semi-portable closed-circuit television equipment to permit video-taping of facial and gestural responses of developmental sample during social stimulation and interaction. b. Design of laboratory apparatus for presentation of social stimuli to infants (in conjunction with video-taping). c. Exchange of information with other investigators performing related work, in national labs and elsewhere. d. Develop experimental criteria for determining the regulatory (interpersonal control) functions of nonverbal responses in social interaction.
Importance, need, or justification:	The above goals define the initial stages of designing facilities necessary for the scientific analysis of social behavior development.
Method, strategy, or design:	At this time, first quarter funds for equipment have been put to bid, contacts with other laboratories have been made and useful information exchanged, initial plans for experimental practice TV films of infants have been made with borrowed equipment and an experimental procedure for detecting nonverbal regulators has been developed.

Characteristics of the sample:	Infants for practice filming have been recruited by convenience, and where possible in conjunction with Dr. Horowitz's infant laboratory. Other subjects at both adult and preschool levels are being used to round out the developmental continuum in establishing experimental criteria for determining the regulatory functions of nonverbal responses in social interaction.
Expected end products of results:	The equipment ordered is expected to be bid upon and purchased, and to be used immediately upon acquisition in the nonverbal regulation studies. It will be applied to infants when the infant laboratories are completed this winter. In the interim, we expect to make progress in the development of a functional code for the categorization of nonverbal behavior.
Evaluation procedures:	Our evaluation procedures will consist in statistical tests of the reliability of empirical relationships obtained through the experiments.
Relationship to other Center projects and Center focus:	The regulatory analyses of nonverbal behavior constitute a unique theme, but one that will be complementary to other studies of social behavior--particularly the language studies--and will contribute to a comprehensive analysis of infant development when used in collaboration with the infant projects.
Flow chart, time schedule:	The procedures listed under "Method" above describe the project activities for the first quarter relative to the purposes listed under "Purpose" above. The first quarter goals have been met. By the end of the second quarter, the equipment ordered should be used in initial infant and interpersonal studies described above and the remainder of the laboratories should be designed, put out to bid, and at least partially in operation. By the end of the second semester, TV tapes should be ready for formal analysis with the aid of computer programs.

KANSAS CENTER FOR RESEARCH IN EARLY CHILDHOOD EDUCATION

K-E

Title: A study of the ecological reinforcers of the preschool environment

Principal Staff:
Dr. Donald M. Baer, principal investigator
Miss Trudy Lee Rowbury, research assistant
Mr. Graeme Blasdel, research assistant

Purpose, objective, or goals: To discover to what extent the materials of the preschool environment have within themselves reinforcing functions which can maintain and guide a child's play or construction with them. In particular, it is desired to know whether preschool materials not only are capable of maintaining play behavior in themselves, without extrinsic social reinforcement or instruction, but also can in fact teach the child something about environmental relationships through this play: the law of gravity, the principles of leverage, the technique of two-dimensional representation of three-dimensional reality, etc. By materials is meant such things as blocks, dolls, art materials, puzzles, manipulative toys, etc.

Importance, need, or justification: The importance of this project lies partly in the fact that the teaching functions of preschool materials have rarely, if ever, been examined experimentally, either as teachers or as stimuli capable of maintaining a respectable rate of child interaction with them (independent of teacher intervention). It is thus valuable to the field of early childhood education to know to what extent such materials in fact will maintain child behavior, in what ways child behavior may change as a consequence of this interaction with the materials. In addition, the project has importance because it may show how teacher intervention can make preschool materials

Importance, need, or justification (continued)

into behavior-sustaining, teaching media, if early research fails to show any inherent function of this sort without such pointed teacher intervention. Thus, if these materials teach, let us examine how and what; if they do not, let us examine ways to allow them to. Intrinsically, these materials contain many valuable lessons for children to learn--the problem is to discover how to get these lessons taught optimally.

Method, strategy, or design:

The primary experimental method is to use social reinforcement from teachers to develop rates of play with selected materials in children not showing such play initially. Teacher reinforcement will be discontinued from time to time, to see if the child's rate of play with these materials will continue to depend upon such reinforcement, or if he will, in time, become an autonomous player with the materials. In either case, the products of his play will be scored in various ways, to see what development of play may result from his maintained rate (whether intrinsically or extrinsically maintained). Different types of development may be seen during extrinsically maintained play than during intrinsically maintained play. If no development is seen after a reasonable period of time (e.g., several months of several-times-a-week play), teacher reinforcement will be pointed toward specific types of play. For example, with blocks, teachers may selectively reinforce vertical building rather than horizontal, for a period. Then, selective reinforcement will be discontinued, to see if its effects are maintained without it, and to see if now, new developments in the child's play will manifest themselves. If not, a different tactic of selective teacher reinforcement will be applied, in a continuing attempt to find some simple way of promoting a kind of interaction between child and material which will lead to spontaneous expansion of his

Method, strategy, or design (continued)

interaction with that material, in ways which could prove valuable to his current and future development--especially, his educational development.

Characteristics of the sample:

The sample will consist of preschoolers, middle or poverty class, who show low or zero rates of interaction with specific materials of the preschools (or all the materials of the preschool). No other characteristics are presently known to be necessarily involved in the sample available and desired.

Expected end products of results:

The expected end product is a tentative identification of certain preschool materials as maintainers of child play with them, others as less clearly this, others as not at all. Some materials, further, may be identified as capable of producing certain elaborations (i.e., certain teachings) in the behavior of children who play with them at length; others may not. Possibly, some ways in which teacher reinforcement can aid certain materials in leading to such behavioral elaborations, through directed play with identified materials, will be discovered and be describable as teaching techniques for other teachers to use toward the same goals.

Evaluation procedures:

The child's behavior, and the nature of his play products, is currently observed as it occurs, being recorded in a variety of categories such as time in play, number of play movements during play, number of material-pieces used, height, width, length, etc., of the product; furthermore, photographs of the finished products are taken, and can be rated for other characteristics (yet to be decided at this stage of the research: perhaps "complexity," "novelty," or "svmmetry"). Most of these observation techniques and their resultant scores have proven to be highly reliable so far; as others are developed, they will, of course, be subjected to

Evaluation procedures (continued)	intensive examination for psychometric reliability, as well as relationship to the experimental variables of the study.
Relationship to other Center projects and Center focus:	This project relates to other Center projects as an example of an investigation into the conditions under which children learn, especially as they learn the lessons of special significance for early childhood education. In that it examines behaviors for their eventual independence from extrinsic reinforcement, it relates to those projects which are interested in highly durable patterns of child behavior (or, conversely, those projects interested in the lack of durability of child behavior). Thus, it may serve as an explanatory tool for apparently autonomous traits of children; and it may serve as an example of a technology to accomplish such apparent autonomy, when it is desired.
Flow chart, time schedule:	Currently, the rates of block play maintained both under social reinforcement from teachers, and without such reinforcement, are under study in two children, one a normally high-rate, skilled user of blocks, the other a previously zero-rate block builder. Within two months (approximately), it is expected that both children will have been systematically exposed to social reinforcement and discontinuations of reinforcement repeatedly enough to show their respective response to, and dpendence on, this reinforcement for maintenance of their rates and qualities of block play. That comparison will be replicated with other similar pairs, probably within another two months. By the end of the year, it is expected that it will be clear whether initially low-rate block builders can be made independent of teacher reinforcement in their block play, and whether any development of that block play can be seen as it is maintained. The other questions posed above probably can be approached only by the following year.

PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

70706-P

Number	Program, Activity/Project Title	Principal Investigator
P-A	Central Staff--Administrative	Susan W. Gray
P-B	Intervention Studies	
-BA	StudyA--Vertical Diffusion (Mother's Study)	Barbara Gilmer
-BB	Study B--Training Trainers of Aides	D. Butler
-BC	Study C--Mother-Home Visitor (OEO)	Della Horton
-BD	Study D--Infant Exploratory Study	Susan W. Gray
-BE	Study E--Head Start Home Visitor	R. A. Klaus
-BF	Study P--Elk and Duck Rivers Parent-Child Center Project (OEO)	David L. Wickens
-BG	Study Q--Fort Yates Follow Through Consultation (OEO)	Rosemary Giesy
P-C	Ecological Studies	Maxine Schoggen
P-D	Individual Characteristics	
-DA	Study H--Concept Development	Barbara Gilmer
-DB	Study G--Cognitive Style	C. Mumbauer
-DC	Study I--Character Development	C. Mumbauer
-DD	Study J--Adult Roles	Joan Aldous
P-E	Supportive Activities	
-EA	Study O--Development of Assessment Instruments	Barbara Gilmer
-EB	Dissemination-Demonstration (USOE & OEO)	Reba Wilcoxon
-EC	Curriculum and Materials Development (USOE & OEO)	[illegible]. Camp

PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

P-A

Title: Central Staff--Administrative

Principal Staff: Susan W. Gray, Director; David Wickens, Acting Director of Training; Mary Crawford and Melva Matthews, Administrative Assistants

Purpose, objective, or goals: Other than the usual purposes of central administration, some goals are being particularly emphasized for the period December 1, 1968 to November 30, 1969: Completion and write-up of projects (including technical and non-technical treatments), consolidation of efforts, and planning for the period beyond September-December 1, 1969, which represents the terminal phase of a number of our current endeavors.

Importance, need, or justification: Serves as central coordination of components and handles extramural contracts.

Method, strategy, or design: Because of serious shortages in upper echelon staff for the immediate future, and also because of the three goals stated above, the procedure for the coming year will be a continuation of the one begun in September, 1968, that of assigning responsibilities more broadly, and then giving persons skills and practice in assuming these responsibilities. There will be a heavy stress on intergroup communication, and the interrelations of projects and programs.

The director's role--at least the attempted role--in this is fourfold:

1. Guiding the complicated array of projects, and the staffs which comprise them.
2. Recruitment for vacancies. Particularly critical here is that of a Director of

Method, strategy, or design (Continued)

Research able to assume major responsibilities, and an administrative associate who can share some of the responsibilities of the overall operation that are not directly related to training and research. It should be remembered here that much of DARCEE's operation is not funded through the National Laboratory. The other aspects of DARCEE obviously increase greatly the general administrative load.

3. Working on the continuing, and continual, problem of funding, with the effort to make more of our funding predictable on better than a year's basis. The year-by-year funding is particularly handicapping since none of our contract or grant years coincides with the academic year, a severe problem in staffing and recruitment.
4. Extramural relations.

Characteristics of the Users:

Internal: the entire DARCEE staff.

External: here we are particularly concerned with collaboration, which is carried on largely at the program level, and with dissemination, which ranges from the specific technical reports to broad gauge lay treatments, on the scope and purpose of DARCEE.

Expected end products of results:

The hoped-for end products of the year will be an operation better consolidated, more adequately staffed, and with a more predictable future.

Evaluation procedures:

This will simply be a rather gross assessment of the general health of the DARCEE organism, in line with the goals mentioned, and the indices of the overall productivity of the total operation.

Relationship to other center projects and center focus:

This is the superordinate program of DARCEE. Its role is largely that of facilitating-prodding when needed, pulling

Relationship to other center projects and center focus (Continued)	in on the reins when necessary, but mostly that of enabling projects to move forward at an appropriate pace. Most collaborative efforts with other components of the laboratory, or with persons outside it, will be carried on at the program and project level. Again, the central administration serves as facilitator.
Flow chart, time schedule:	None seems appropriate.
Linkages or activities within the program:	General coordination of all program and projects.

PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

P-B

Title:	Intervention Studies
Principal Staff:	C. Barbrack, M. Bransky, I. Buhl, D. Butler, B. Forrester, R. Giesy, B. Gilmer, S. Gray, B. Hardge, D. Horton, D. Wickens
Purpose, objective, or goals:	To improve educability of young children through devising and testing empirically intervention techniques which can be replicated and which are feasible from the standpoint of cost efficiency and the maximum use of less-trained personnel. The specific emphasis of the majority of the projects in this program is concerned with training mothers to make them more effective educational agents for their children.
Importance, need, or justification:	Within the flood of intervention approaches a conspicuous lack is that of precisely defined intervention approaches, carefully documented and evaluated over time, both with children, parents, and other persons living in contiguity. We have been for some years and are continuing to attempt to devise more precisely defined and more adequately validated intervention programs.
Method, strategy, or design:	We have attempted massive intervention over time, for which we have tried to specify a set of variables that seemed to effect long term improvements in educability. In general, these interventions have centered around attitudinal factors and aptitude variables for mother and child. Of particular interest in the child have been attitudes relating to achievement as achievement motivation, persistence, identification with and achieving role model, development of independence and internalized

Method, strategy, or design (Continued)

motivational, systems. For mothers we have been concerned with the mother's general ability in planning and organizing her life, the development of an effective teaching style with her child, and the imparting to her of a more adequate knowledge of the steps involved in enabling her child to succeed in school. Some other characteristics of our general strategy are as follows:

1. The use of non-professional personnel trained on one project to train workers on another project (cf. the Mother Home Visitor Study).
2. An attempt to keep close to treatments involved in a particular study. Large samples in many settings often attenuate so-called innovative treatments so much that little residual is found for appropriate comparisons of contrasting treatments.
3. The general evaluation design has been one of pre, interim, post, and follow-up tests with contrasting treatment groups, varying from single comparisons of an experimental and control group to that of comparing four treatments.
4. A concern with diffusion effects both within a family and among persons living in physical propinquity.
5. Long term follow-up of the subjects involved in intervention treatments.

Characteristics of the users and the sample:

Sample: Low income parents and children (rural and urban), plus middle class comparison groups. Comparisons are made of white and Negro groups, with some limited work with other ethnic groups.
Users: Other research personnel interested in intervention approaches, preschool public school programs, welfare and programs designed to enhance the skills of paraprofessionals, Head Start programs, Parent-Child centers.

Expected end products of results:

1. It is anticipated that evidence of vertical diffusion will be observed. This should result in improved academic patterns for young children.
2. Increased effectiveness in training para-professionals (including manuals and programs).
3. Improved techniques in maternal teaching practices.
4. Home Visitor Programs (materials and instruction) to be used with mothers and young children. In short,
5. More thoroughly validated and precisely defined intervention programs, including a series of curriculum manuals (cf. Support Activities Program; Curriculum and Materials Development Project).

Evaluation procedures:

These have been discussed under "Methods." In general, four different assessment approaches are being used:

1. Tests of general aptitude pre, interim, post, and follow-up.
2. Test of specific abilities toward which our intervention programs are directed (some locally developed; cf. Project on Development of Assessment Instruments under Program: Supportive Activities).
3. Concrete evidence of changes in performance on part of parents ("life style changes").
4. Interview data (with parents) directed toward the assessment attitudes related to child's educability and their own life style and potentials for change.

Relationship to other center programs and center focus:

At DARCEE:

1. New intervention programs are planned in part on some of the findings of Program: Individual Characteristics and Program: Ecological Studies.

Relationship to other center programs and center focus (Continued)

2. The intervention program suggests new basic research questions which need answers. The Program: Supportive Activities is intermeshed in at least three ways:

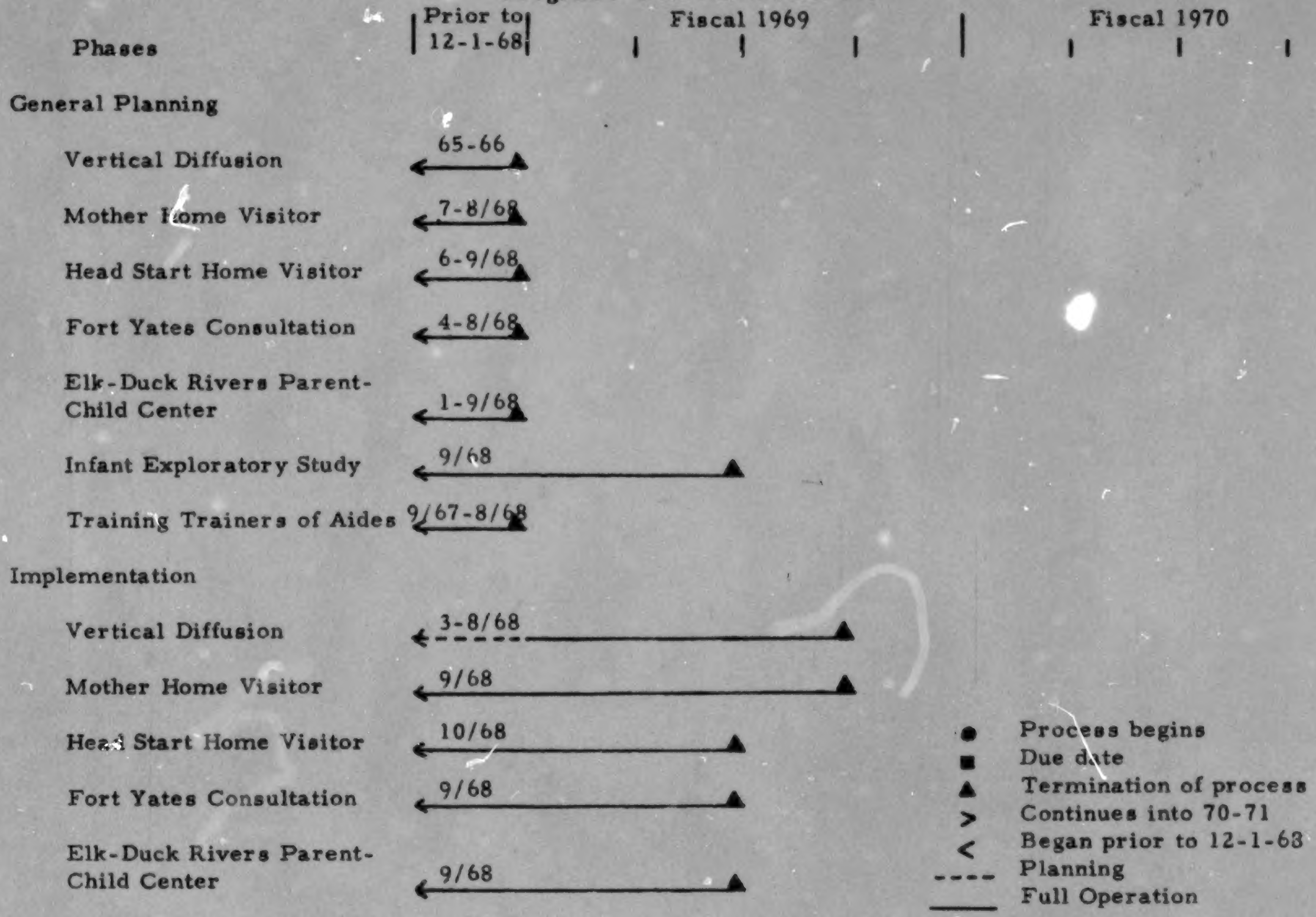
   a. Much of our dissemination efforts have centered around our intervention approaches, particularly with visitors.
   b. The assessment program provides input for intervention needed.
   c. Much of our curriculum effort stems from the intervention studies.

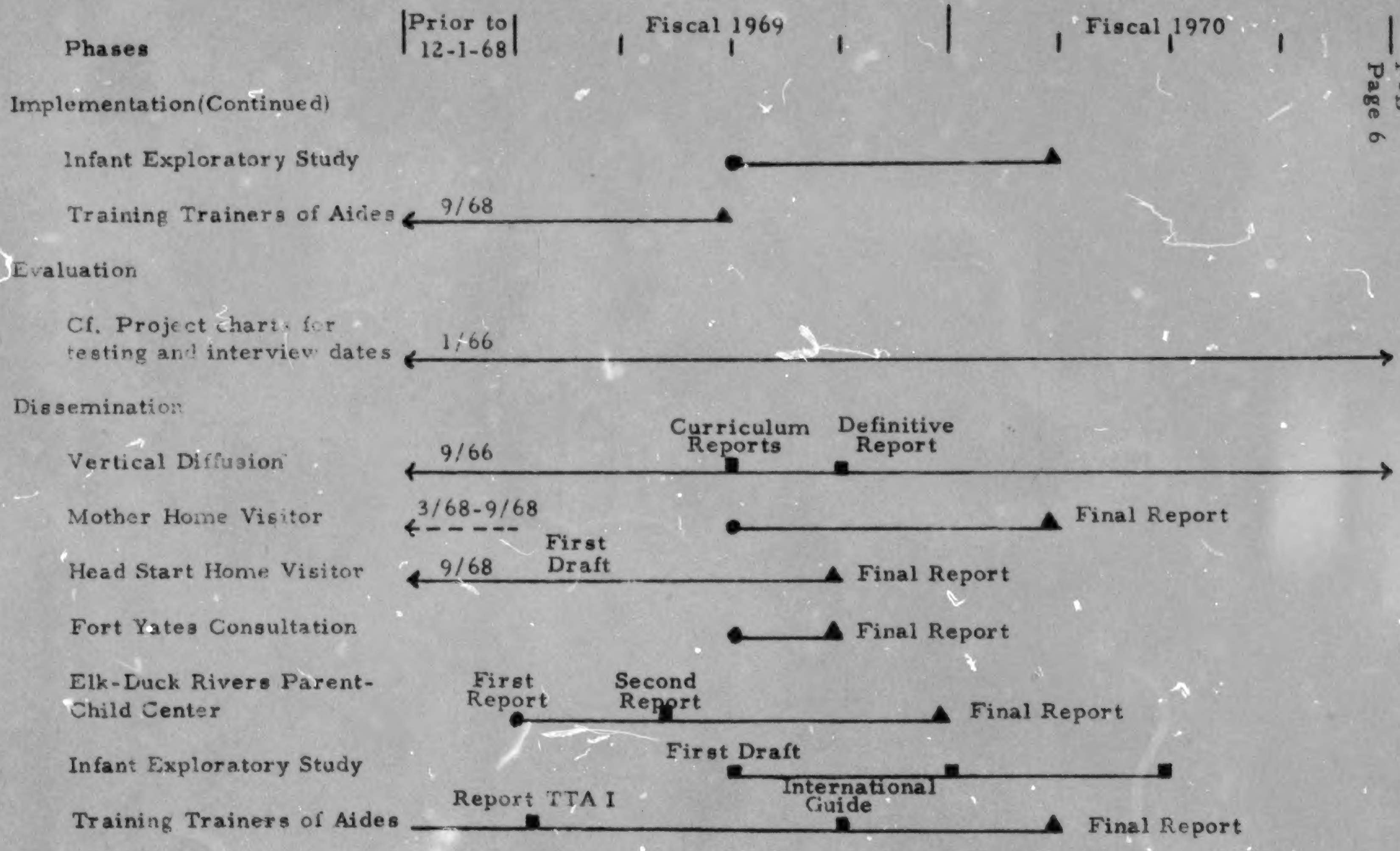
Flow chart, time schedule: Attached.

Linkages of activities within the program: Cf. "genealogy" chart.

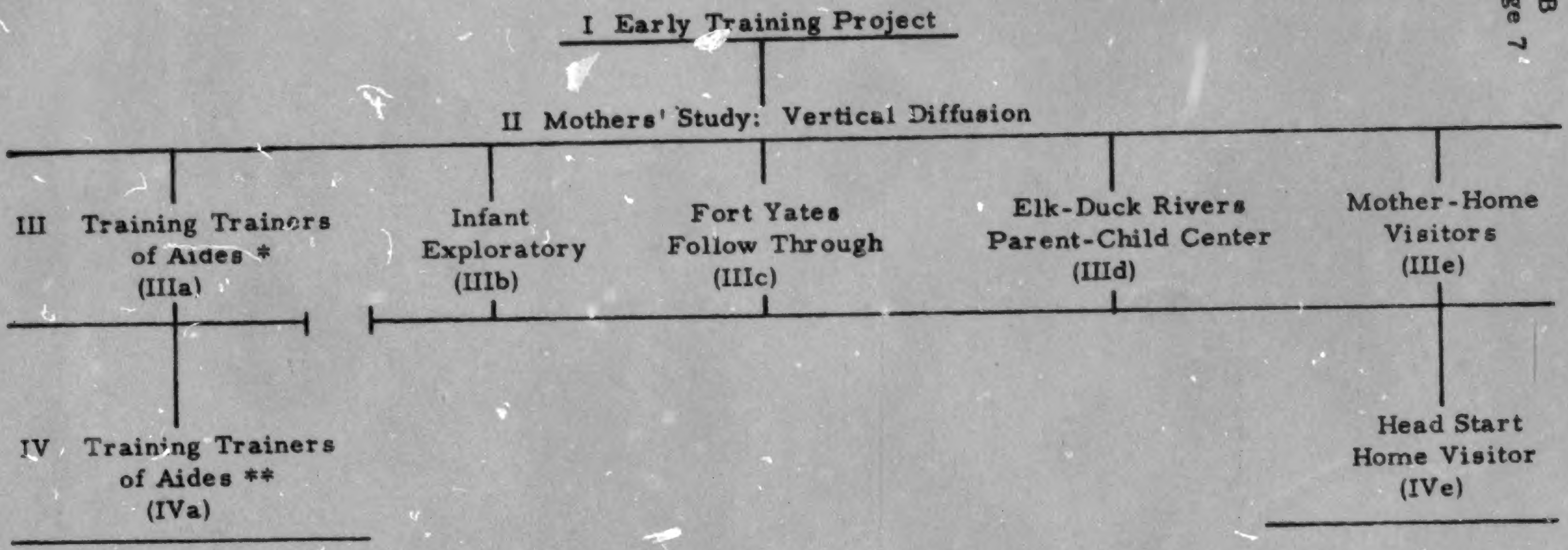
PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

Program: Intervention Studies




Phases
Prior to 12-1-68
Fiscal 1969
Fiscal 1970
Implementation(Continued)
Infant Exploratory Study
Training Trainers of Aides
9/68
Evaluation
Cf. Project charts for testing and interview dates
1/66
Dissemination
Vertical Diffusion
9/66
Curriculum Reports
Definitive Report
Mother Home Visitor
3/68-9/68
Final Report
Head Start Home Visitor
9/68
First Draft
Final Report
Fort Yates Consultation
Final Report
Elk-Duck Rivers Parent-Child Center
First Report
Second Report
Final Report
Infant Exploratory Study
First Draft
International Guide
Training Trainers of Aides
Report TTA I
Final Report

INTERVENTION STUDIES


I Early Training Project
II Mothers' Study: Vertical Diffusion
III Training Trainers of Aides * (IIIa)
Infant Exploratory (IIIb)
Fort Yates Follow Through (IIIc)
Elk-Duck Rivers Parent-Child Center (IIId)
Mother-Home Visitors (IIIe)
IV Training Trainers of Aides ** (IVa)
Head Start Home Visitor (IVe)

I. Prototype Study 1961-1966 (follow-up continues)
II. Major intervention study now in third year
III. Studies stemming from Level II
IV. Studies stemming from Level III

* The progression is not a simple linear one, as indicated. IIIe and IVe in actual implementation proceed simultaneously; The Mothers' Study continues.

** Linkages across the third generation are close; common approaches and evaluation techniques are being used in part in IIIc, IIId, IIIe, and IVe.

PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

P-BA

Title: Study A--Vertical Diffusion (Mother's Study)

Principal Staff: Barbara Gilmer, Iris Buhl, Kathy Olley, Anne Mangels

Purpose, objective, or goals: The purpose of this study is to conduct a systematic assessment of the agents of change which enhance vertical diffusion of cognitive stimulation within a family. The research focus is on comparison of several methods and procedures of intervening in families from disadvantaged environments. More explicitly, the concerns are to improve the mother's ability to cope with responsibilities of stimulating the cognitive development of their young children. A second major concern is to study the process of development in both the mother and the children within the family.

Importance, need, or justification: The rationale of the study is: the mother is the chief source of stimulation in the early years for the children in the family and is the agent who imposes the necessary order and structure upon the environment for there to be development of competence and control; the mother also plays a key role in sustaining developed skills and motivating the children to develop more complex abilities during the early years.

Method, strategy, or design: The general design of this study includes four groups, each of which receives a different treatment:

1. The Maximum Impact Group, in which both the mothers and the children are involved in treatment at the Early Training Center.

Method, strategy, or design (Continued)

2. The Curriculum Group with only the children involved in a classroom program that is a replication of the Maximum Impact children's program.
3. The Home Visitor Group, in which only the mothers are involved in treatment with a Home Visiting Teacher, and the children are in no classroom program.
4. The Comparison Groups of mothers and younger sibling-age children, and of target-age children, none of whom received treatment.

Characteristics of the sample:

Approximately 80 families in a 550 unit low-income Negro housing project were identified. Sixty of these families having a first or second born child of the target age of 36-48 months and a younger sibling were directly involved in an intervention study. Mothers and siblings were assigned to the three treatment groups randomly except where necessity dictated otherwise, with as even a distribution of the children by sex to the treatment groups as possible, and with mothers being as youthful as possible in the mother treatment groups. The other families serve as comparison groups.

Expected end products of results:

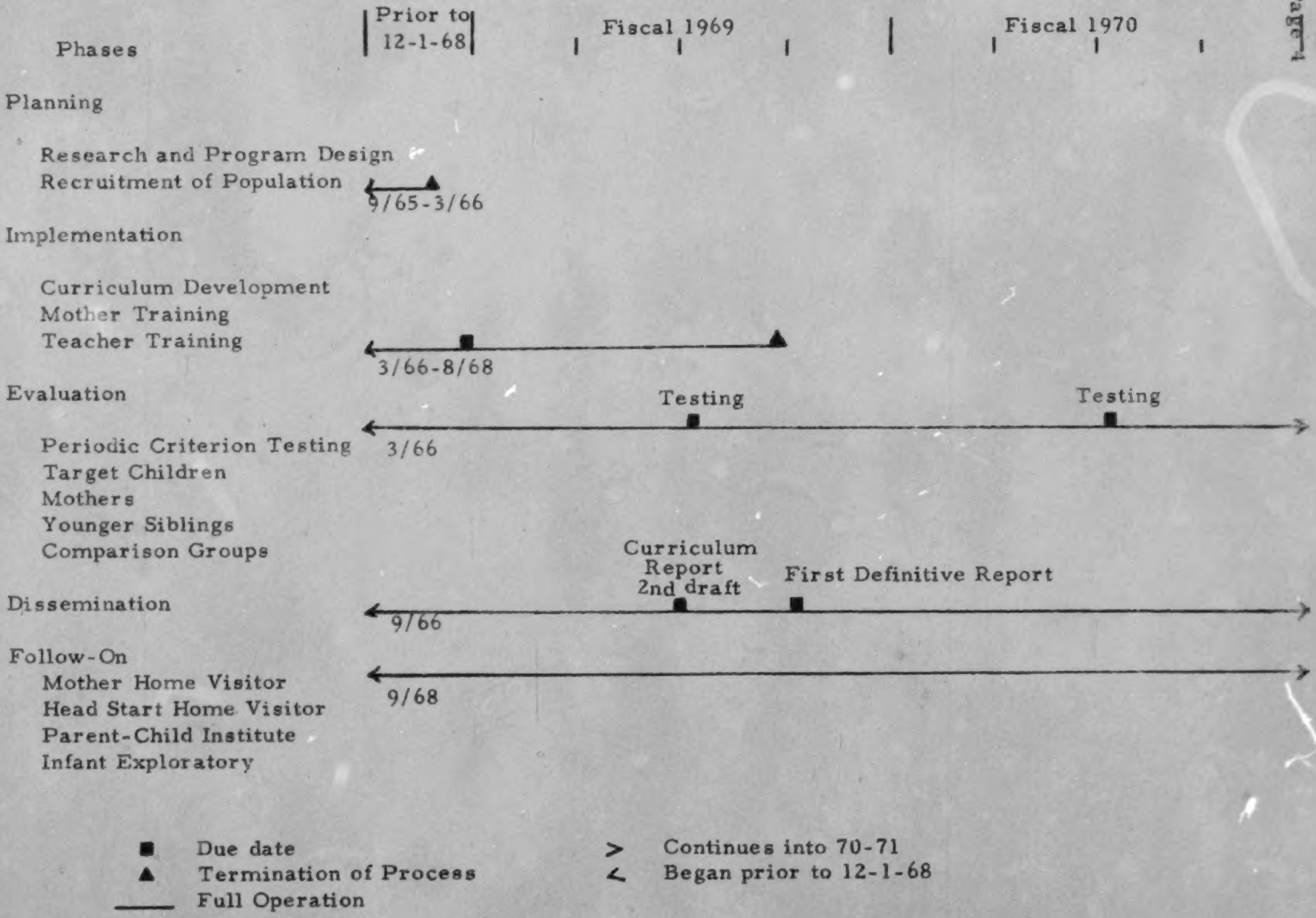
We anticipate the following results:

1. Sustained academic achievement for target children.
2. Evidence of vertical diffusion.
3. Amelioration of potential deficit in achievement patterns.
4. Increase in curriculum and materials know-how.
5. Increase in teacher effectiveness.
6. Increase in knowledge of early education in general.

Evaluation procedures:	Evaluation has been an on-going process throughout the program. Primarily concerns for the target children have been on four metric status cognitive style changes, and will involve academic achievement indices. The mothers will be followed with focus on life-style changes. The younger siblings will be tested periodically, and later school achievement investigated. Interim results on their performance on conceptual sytle as related to the DARCEE curriculum indicate promising effects of vertical diffusion.
Relationship to other center projects and center focus:	The Early Training Center was the scene of training of students in preschool education and demonstration of techniques to visitors. The work done while the Early Training Center was in operation is being pulled together in the form of comprehensive units for use with preschool disadvantaged children. The necessity for adequate instrumentation gave rise to the development and continuing use with the younger siblings of a measure to assess cognitive functioning. Mothers from the Maximum Impact Group are working as Home Visiting Teachers in the Mother Home Visitor Project, with the techniques developed in the Vertical Diffusion Study serving as a guide both for them and the Head Start Home Visitor Program; these same techniques will be used in the Infant Exploratory Project. With regard to our dissemination efforts, we anticipate that a comprehensive definitive report will be available for general distribution by November, 1969.
Flow chart, time schedule:	Attached.

PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

Project: Study A--Vertical Diffusion (Mother's Study)



PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

P-BB

Title:	Study B--Training Trainers of Aides
Principal Staff:	D. Butler, M. Bransky, M. Smith
Purpose, objective, or goals:	To study methods of training trainers to provide an effective program of in-service education for para-professionals working in child development centers.
Importance, need, or justification:	One of the major needs in the human welfare profession, and a need particularly acute in programs for young children is that of developing effective ways to train para-professionals on location. Since DARCEE cannot hope to meet this deficiency head on by training large numbers of aides, we are attempting to fulfill what we see as our responsibility by developing, and testing in the field, ways that may be helpful in training such personnel.
Method, strategy, or design:	The strategy of the study calls for two phases to be provided simultaneously; i.e., the training of the trainers, and field practice in implementing an in-service program in the child development centers. The following experiences are provided for the trainers throughout the treatment: graduate classes, teaching experience in a DARCEE classroom, DARCEE in-service training, weekly field visits, and daily seminars (except Tuesdays) in which field treatment is planned for and evaluated. The trainers are tested before and after treatment, a pre-post design. The aides are compared to a group receiving a minimal treatment. Each group will receive pre- and post-tests, a treatment by trials experimental design. There are three hypotheses. The first is that the trainers will make significant improvement from

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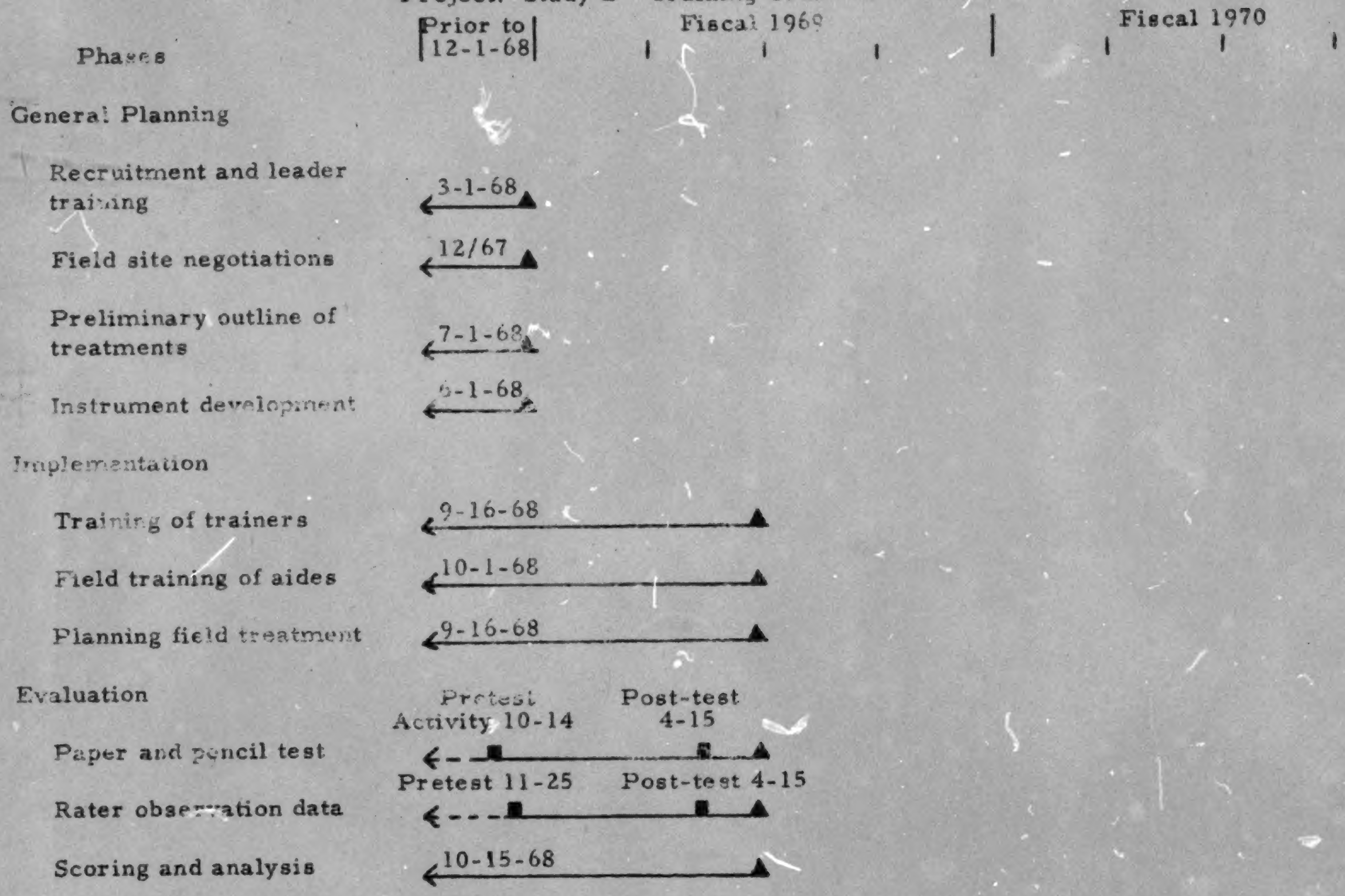
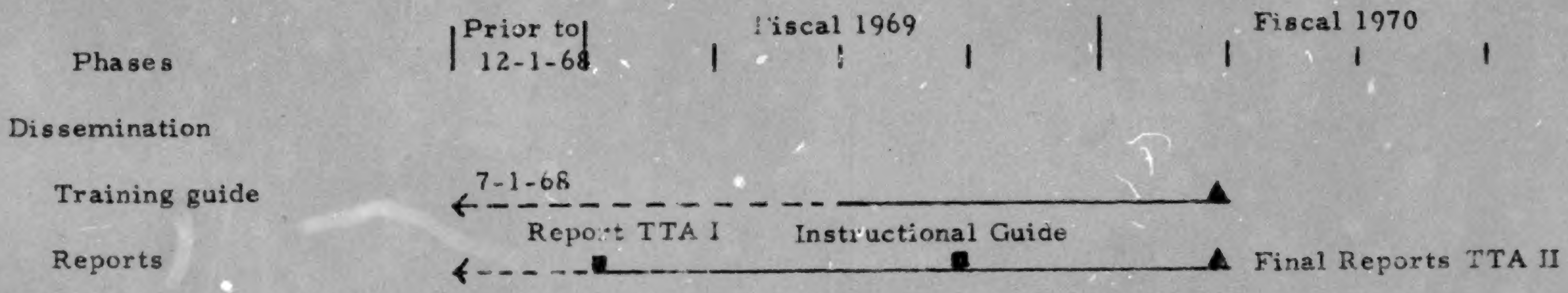
Evaluation procedures (Continued)	Instruments 3-7 are administered to the trainers. Instruments 1-6, and 8 are administered to the aides. In addition to the battery of objective tests, an attempt will be made to collect other relevant information.
Relationship to other center projects and center focus:	This investigation is related to several other programs at DARCEE; for example, the Early Training Centers, the Parent-Child Center program, and the short-term materials workshops. In addition, the TTA study is related to the Parents Training Program at Tucson, and the Home Visit Program at Cornell. What is learned in the training of trainers and the training of aides should have direct application to working with the staff and participants of these related programs. We are studying the process of training both the professional and para-professional working in programs for young disadvantaged children.
Flow chart, time schedule:	Attached.

PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

Project: Study B--Training Trainers of Aides





■ Due date
▲ Termination of process
> Continues into 70-71
< Began prior to 12-1-68
- - - - Planning
——— Full Operation

PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

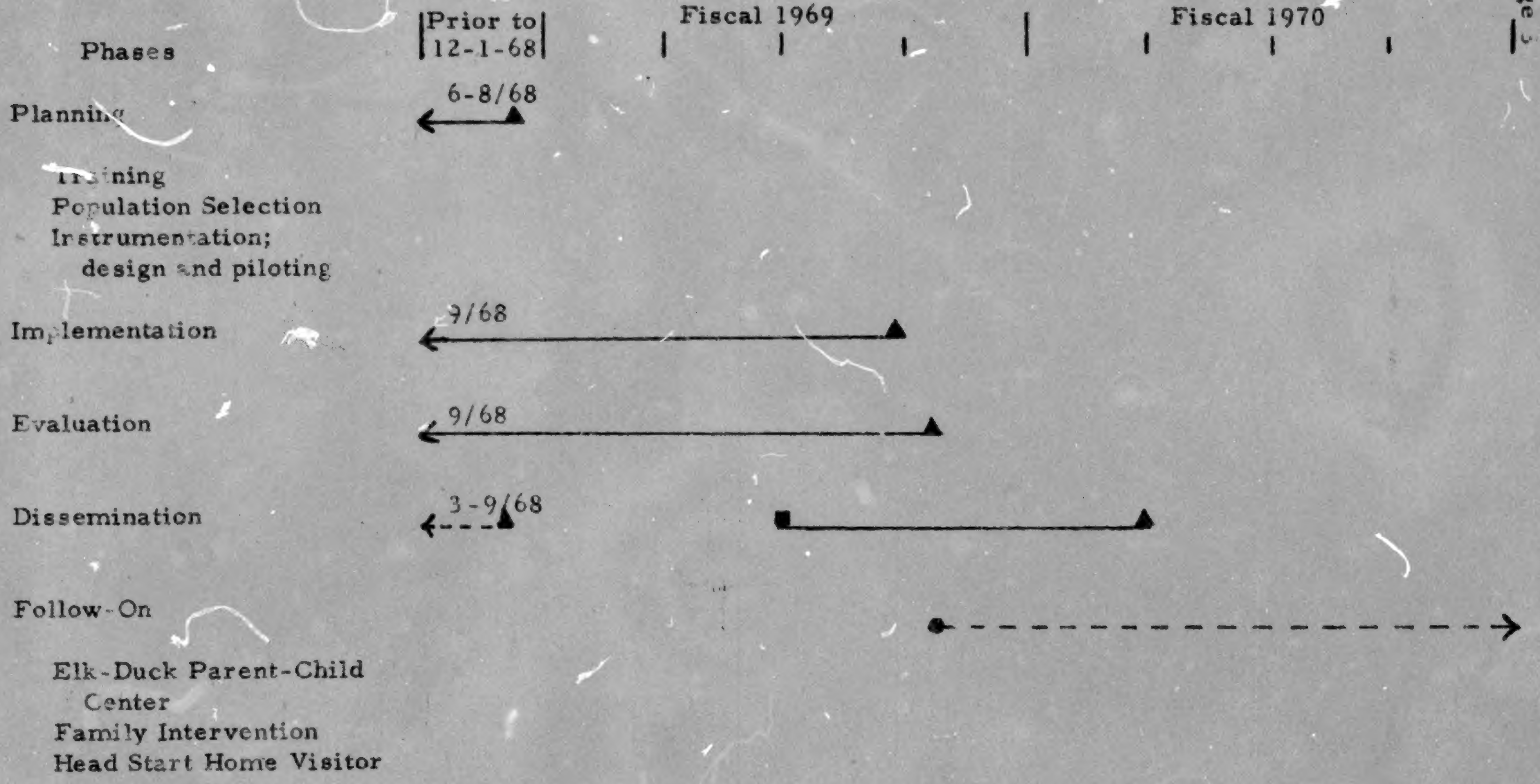
P-BC

Title:	Study C--Mother-Home Visitor (OEO)
Principal Staff:	Della Horton, Barbara Gilmer
Purpose, objective, or goals:	The purpose is to extend the Vertical Diffusion Study by using several of the more adept mothers from the major intervention group as Mother Home Visitors. The question is directed toward determining the feasibility of training para-professionals to work with members of an indigenous population via means of educationally related activities.
Importance, need, or justification:	The training of para-professionals to work within an indigenous population alleviates the shortage of professional staff in this area. The enabling process of upgrading in occupational status is functionary along with the potential beneficial effects of a particular subculture population activating a similar enabling process within a group which could lead to the group's having similar opportunities.
Method, strategy, or design:	A limited number of the major intervention group mothers have been selected to be trained as Mother-Home Visitors. Each of these mothers in turn has the responsibility of conducting an on-going educational stimulation program for three mothers and their young children within the home. Supervision and instruction continue with the Home Visitors to permit the most efficient functioning.
Characteristics of the users:	The population of families who are receiving the Home Visitor educational visits are 15 mothers with children ranging from 3-6 to 3-9. They are residents of the housing project from which the Home Visitors were chosen.

Expected end products of results:	Knowledge of operational effectiveness of implementing such a program, and knowledge of training results of para-professionals working with para-professionals.
Evaluation procedures:	Prior to the first visit, the children were given the Stanford Binet, the Peabody Picture Vocabulary Test, the DARCEE Basic Concept Test--a test designed to measure mother-child interaction through manipulation of basic shapes and colors. The initial home visit included a tape-recorded interview in which the Home Visitor instructed the mothers in training to perform a structured situational task. This required to mother to verbally instruct her child to place objects varying in dimensions of limited physical properties onto a cue card. The use of concepts of color, size, shape, etc., will be evaluated a second time at the end of the training program, at which time the Binet, PPVT and Concept Test will also be administered again.
Relationship to other center projects and center focus:	The Mother-Home Visitor Project is an outgrowth of the Vertical Diffusion Study, employing both Maximum Impact Mothers as Home Visitors and techniques developed in the course of the major intervention study as a guide. These same techniques are being employed in the Head Start Home Visitor Program and as training curriculum for Home Visitor Institute.
Flow chart, time schedule:	Attached.

PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

Project: Study C--Mother-Home Visitor



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■	Due date	----	Planning
▲	Termination of process	———	Full operation
>	Continues into 70-71		

PEABODY DEMONSTRATION AND RESEARCH CENTER
FOR EARLY EDUCATION

P-BD

Title: Study D--Infant Exploratory Study

Principal Staff: S. W. Gray, B. J. Forrester, B. Hardge

Purpose, objective, or goals: To systematically obtain information with a small number of mothers and their infants which can provide maximum input for an expanded home intervention program for mothers of infants. This project will:

1. Make a downward extension of some of our earlier home visitor techniques, in order to modify mothers' interactions with their infants.
2. Develop materials for cognitive stimulation of infants and teach the mothers essential stimulating skills, or help the mother to program the stimulation.
3. To select and/or develop instruments or evaluation procedures.

Importance, need, or justification: Cognitive input during the first year of life is vital environmental stimulation. The cognitive environment is provided for the infant through the mother. Programmatic research should select cogent knowledge and experience for application in low-income homes by mothers who otherwise would not provide maximum, efficient, or effective cognitive input for their infant. Assessment must be made of the mother's role in the intervention research, and implications for general applicability of a model must be derived.

Method, strategy, or design: Mothers and infants will be selected, recruited, and tested. Special cribs, with stimulus and response potentials, will be produced and placed in each of the five homes. A home visitor will

Method, strategy, or design (Continued)	work directly in the home with the mothers, each week, for one hour per visit, for a period of six months. A procedural manual outlining the treatment program will be based on methods of enlisting cooperation and developing stimulating skills that have been used in the Mother Training intervention study. Materials appropriate for cognitive stimulation will be introduced and demonstrated with the assignment of weekly exercises. The responsive environment approach will involve physical features of things and social behavior of persons in relation to the infant.
Characteristics of the sample:	Subjects will be five young mothers from low-income homes and their first (or second) born infants who are between three and six months of age.
Expected end products of results:	The results should permit the acceptnace or rejection of some maternal teaching practices or home visitor techniques, as well as an evaluation of the efficacy of a home intervention program for mothers of infants. The results are expected to provide input for parent educators and professionals and non-professionals in parent-child centers, etc. Products should include a procedural manual, a responsive environment crib apparatus, and other stimulating cognitive materials.
Evaluation procedures:	The homes will be rated with a home observation guide or a home stimulation inventory. Administration of the Weschler Adult Intelligence Scale will provide diagnostic information on how to approach a particular mother. Cognitive development, cognitive style, language maturity, and language style are the criterion variables to be evaluated. Infant abilities and development

Evaluation procedures (Continued)

will be measured--activity, attention, and cognitive level. All subjects will be pretested and given follow-up tests six months and eighteen months after implementation.

Relationship to other center projects or center focus:

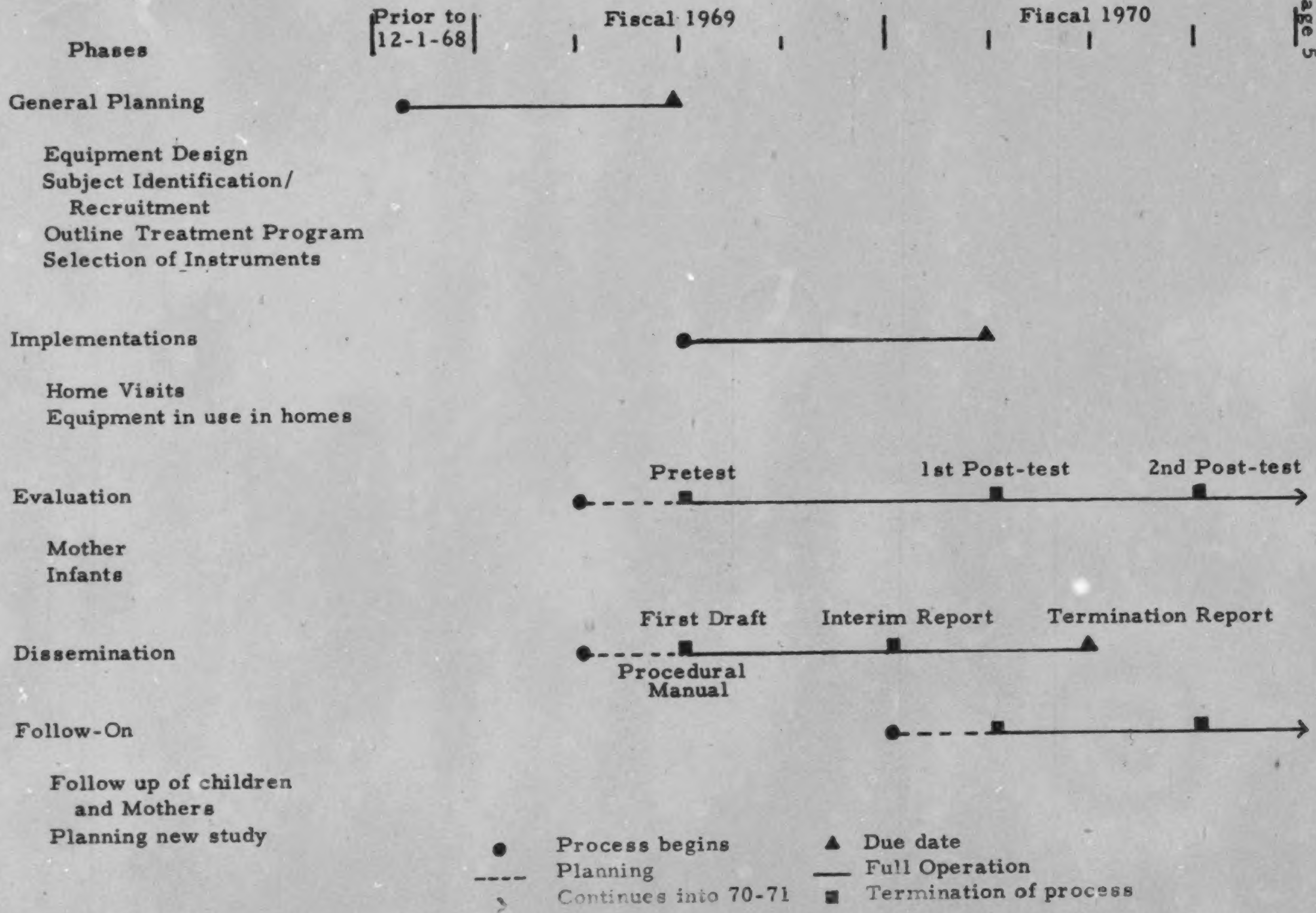
This intervention project is a downward extension of earlier work with deprived mothers and their preschool children. The mother-child interaction focus and the home educational environment emphasis are based on the ecological studies program. The development of assessment instruments for this study is a continuation of our interest in assessment and evaluation. It is projected that the parent-worker training institutes, and a future study of cognitive interactions of mothers and infants will depend heavily on this exploratory study.

Nationally, in the framework of the National Laboratory on Early Childhood Education, this study is related to the concern for increasing understanding of infancy, and of the environmental influences affecting psychological development. Our concern with the home visitor who acts as a change agent, and for materials that can be incorporated in a home teaching program, is matched by other components. Work at the Early Education Research Center at the University of Chicago on infant cognitive development and infant behavior in a cross cultural sample, will be used as a background information for this study. The home visitor program at Cornell which deals with the general improvement of the home environment is notable, as is their work on cognitive and emotional development in infancy and early preschool years. The Kansas Center for Research on Early Childhood Education has an interest in infant

Relationship to other center projects or center focus (Continued)	responsiveness under a variety of stimuli and self-produced stimulation concepts and practices can be incorporated into the strategy of this project.
Flow chart, time schedule:	Attached.

PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

Project: Study D--Infant Exploratory Study



PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

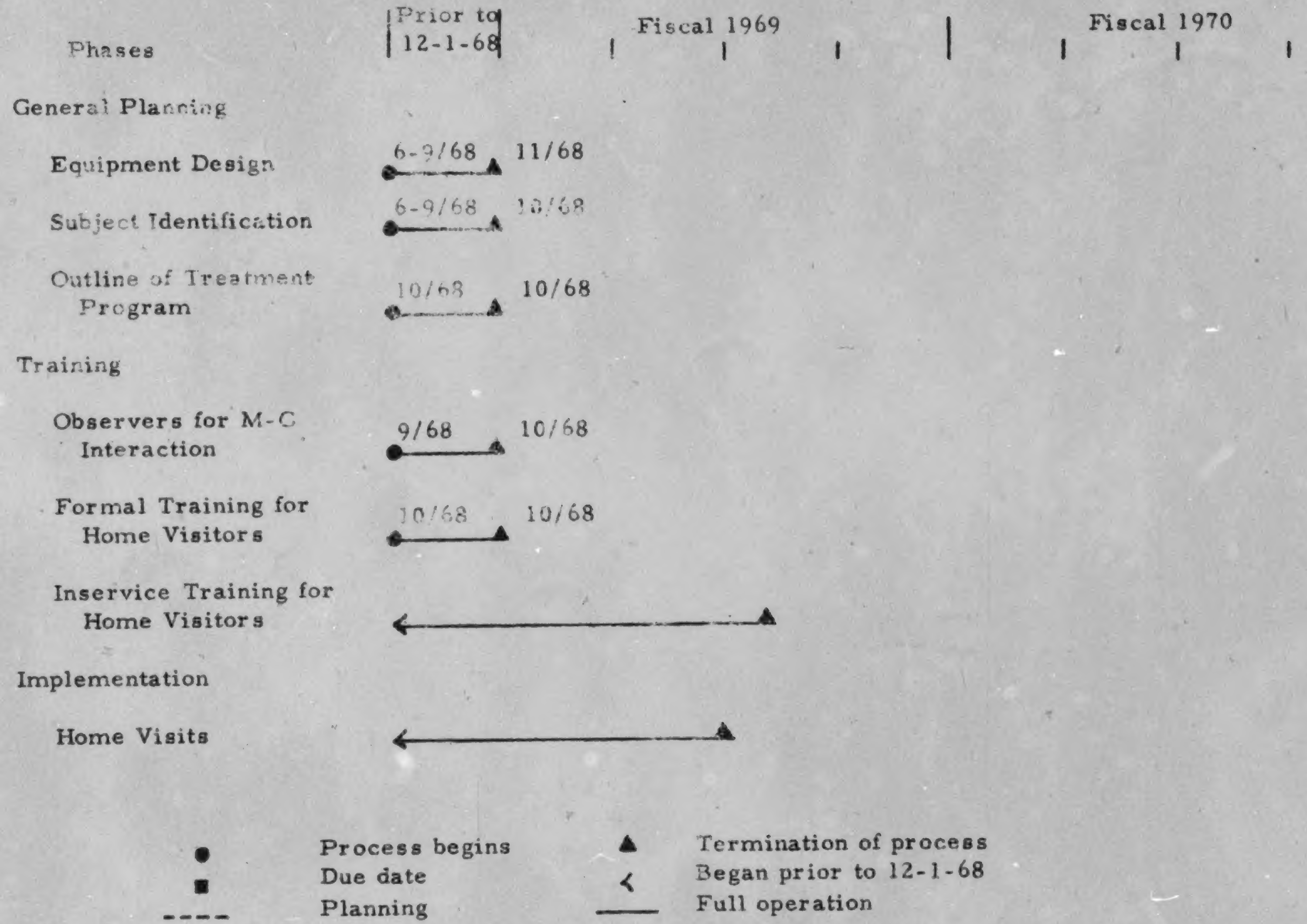
P-BE

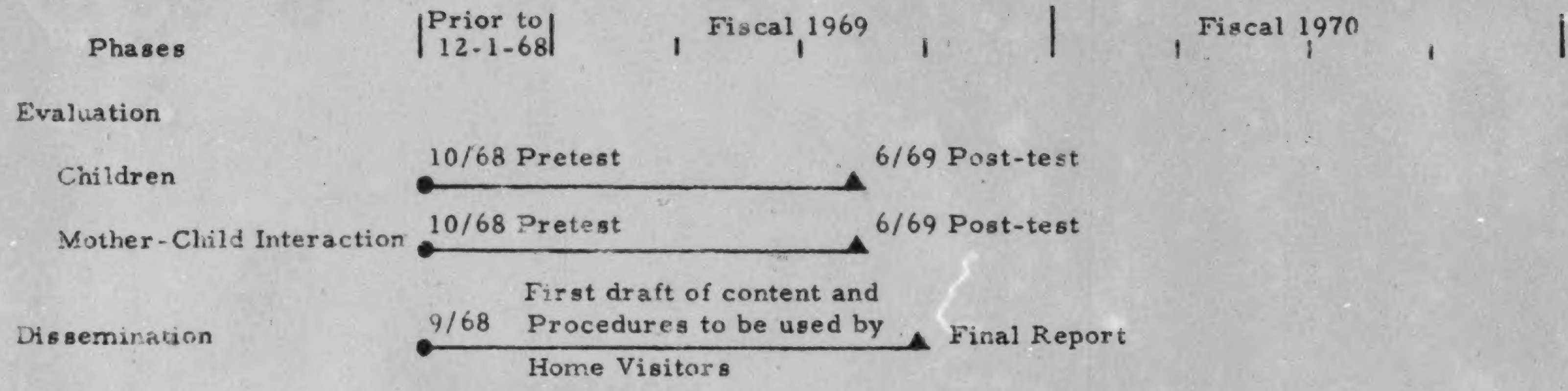
Title:	Study E--Head Start Home Visitor
Principal Staff:	R. A. Klaus, C. R. Barbrack
Purpose, objective, or goals:	To study the effects of a home visitor program upon the academic aptitude of a group of first grade children who were exposed to an eight week, summer Head Start Program. To compare the effects of home visits designed to supplement the first grade curriculum to home visits which focus upon the development of gross motor coordination.
Importance, need, or justification:	The effectiveness of preschool programs in bringing about long termed gains in academic aptitude is questionable. This study embodies an attempt to extend into elementary school increases in academic aptitude which are achieved in preschool by training mother to teach the child in the home. Second, while the home visit strategy has been demonstrated to be effective in increasing children's academic aptitude, the actual content of the home visit has not been independently assessed. This study is designed to investigate the differential effects of two types of home visits. Finally, research in the area of home visits has not fully investigated the effects of the visits upon certain intermediate targets, such as mother teaching styles, which are held to be related to the child's academic aptitude. In this study an attempt will be made to describe various dimensions of maternal teaching styles.
Method, strategy, or design:	This study is designed to allow for the comparison of two different types of home visits. One group of mother and children pairs (T1) are exposed to home visits which supplement the first grade curriculum.

Method, strategy, or design (Continued)	A second group (T2) are exposed to home visits which focus upon development of the child's gross motor coordination. Two additional groups are used for control purposes: T3--local control group and T4--distal control. The home visitors, indigenously poor community residents, have participated in a one week training program and will take part in an in-service training program eight hours per week for the entire academic year.
Characteristics of the sample:	All children in this study are Negro and participated in an eight week Head Start Program last summer, prior to entry into the first grade.
Expected end products of results:	1. Preparation of a final report concerning the effects of a home visitor following a preschool experience upon academic aptitude and maternal teaching styles. 2. A report concerning training methods and procedures for para-professionals.
Evaluation procedures:	Academic aptitude will be measured by the Stanford Binet and the Metropolitan Achievement Tests administered once in October and again in June. Maternal teaching style will be measured by observed categorization of maternal responses to the Maternal Teaching Style Instrument. The observation will be done once before the home visits begin and again in June.
Relationship to other center projects and center focus:	The Maternal Teaching Style Instrument has also been used to assess mothers' style of teaching in Study C. Furthermore, the end products of this study should be useful to any one of the many projects dealing with Home Visitors, Home Environment and Training of Para-professionals.
Flow chart, time schedule:	Attached.

PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

Project: Study E--Head Start Home Visitor




Phases
Prior to 12-1-68
Fiscal 1969
Fiscal 1970
Evaluation
Children
10/68 Pretest
6/69 Post-test
Mother-Child Interaction
10/68 Pretest
6/69 Post-test
Dissemination
9/68
First draft of content and Procedures to be used by Home Visitors
Final Report

PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

P-BF

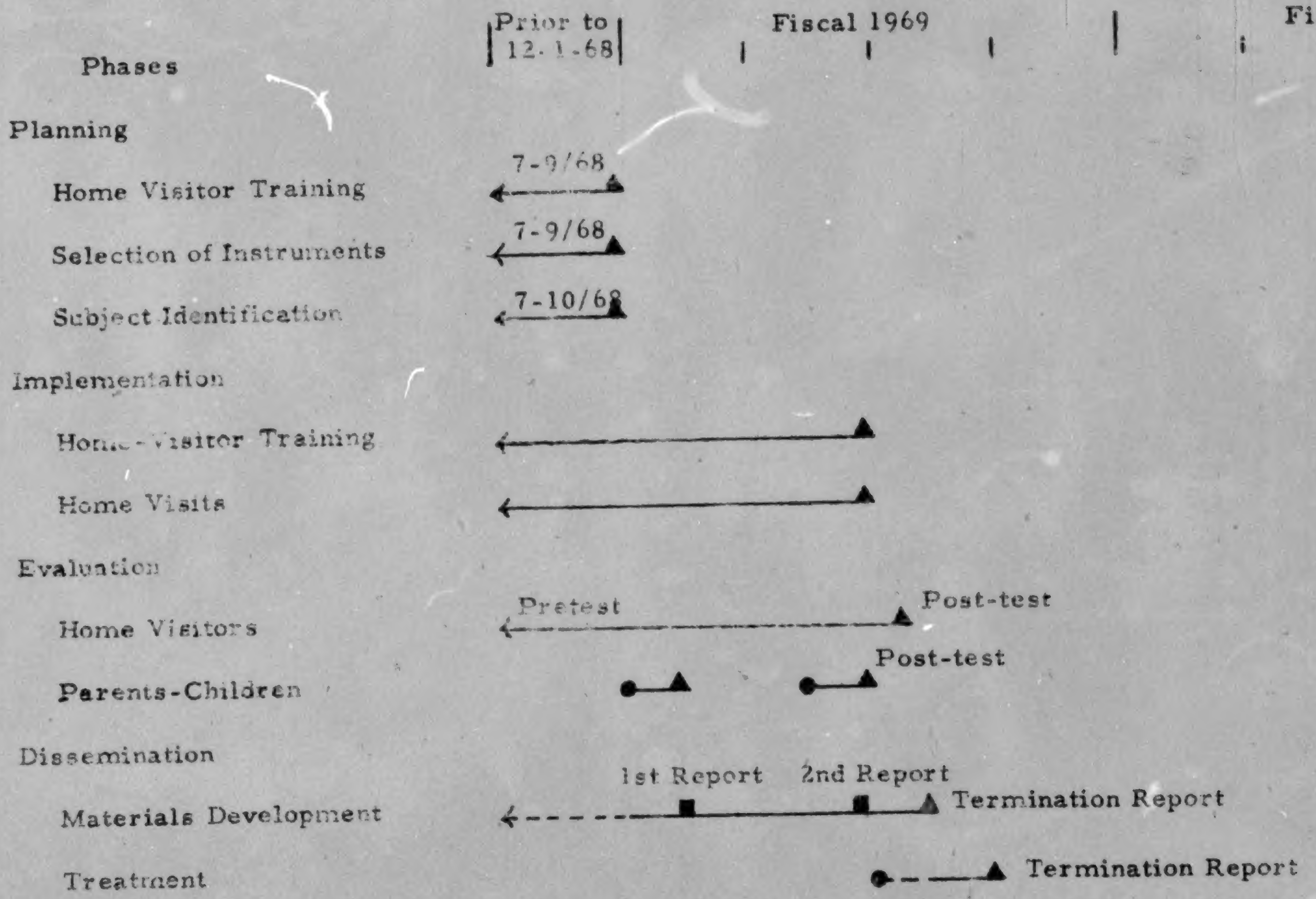
Title:	Study P--Elk and Duck Rivers Parent-Child Center Project (OEO)
Principal Staff:	David L. Wickens, Jean G. Walter
Purpose, objective, or goals:	1. To study methods for training Home Visitors to work effectively with socio-economically deprived families in changing parent-child interaction patterns. 2. To develop educational materials that a mother from the same population can use with a child from birth to three years of age.
Importance, need, or justification:	The results of intervention programs with preschool children indicate that intervention must take place at an earlier age and must involve the parents in order to be maximally effective. Parent-child interaction can serve to perpetuate the continuing poverty status of the socio-economically deprived population.
Method, strategy, or design:	The study is divided into three phases. The first phase is concerned with training for Home Visitors both on the Peabody campus and in the area where they will be working. Training includes visits to homes in the Nashville area with DARCEE professional Home Visitors, discussion of child development principles and development of materials. Training will continue throughout the treatment period in the form of one day of in-service training each week. The second phase of the study is concerned with development of materials for the Home Visitors to use with the child. Commercially available materials will be used in the first two months. Thereafter, materials will be designed which will either be available

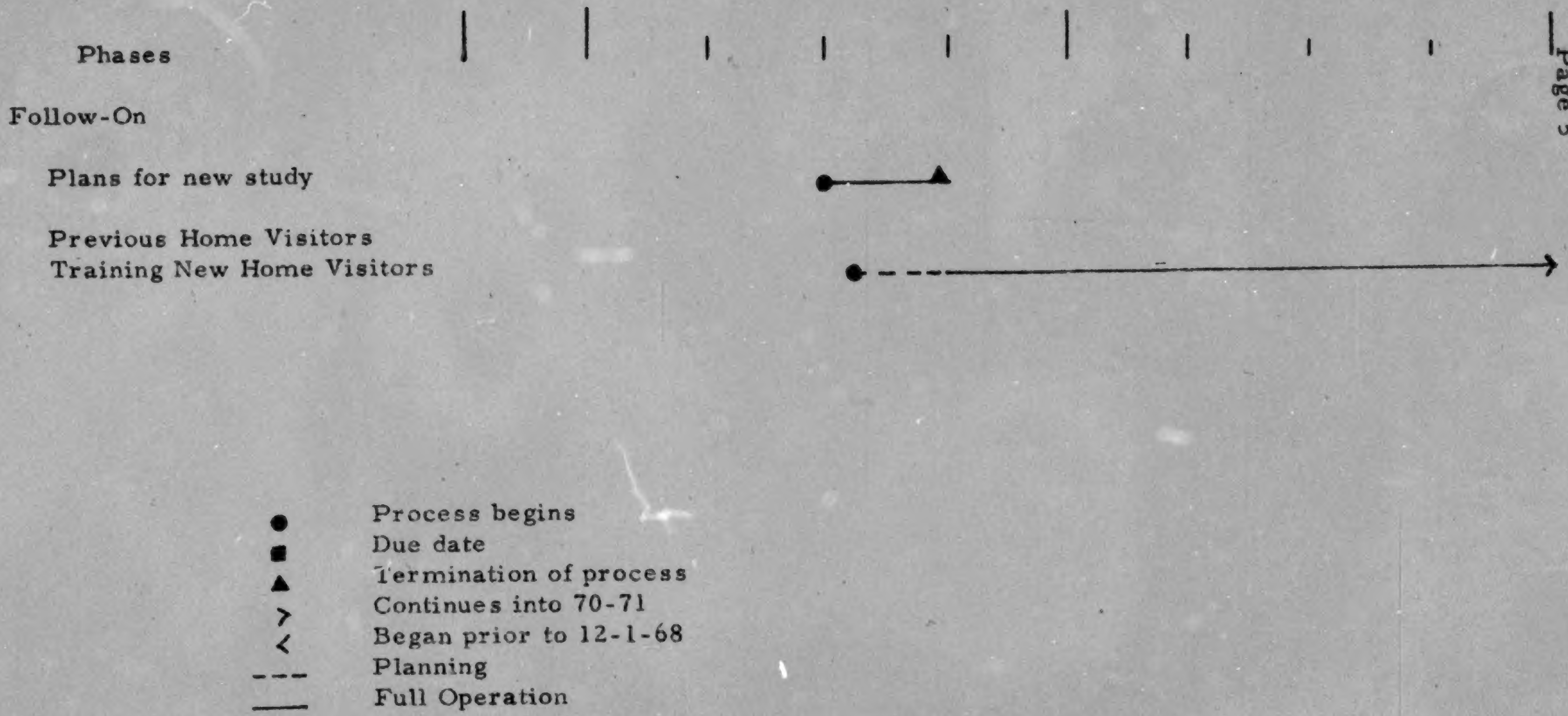
Method, strategh, or design (continued)	in the homes or easily and inexpensively acquired. The third phase of the program is concerned with development of instructional materials for the Home Visitor to use with the mother.
Characteristics of the sample:	The families meet the 1968 Head Start Guideline for poverty status. Mother and father are both present in a single dwelling. The mother does not work full time. The target child is between the ages of 17 and 30 months.
Expected end products of results:	1. A program of instruction and accompanying materials for a Home Visitor to use with children between 17-36 months. 2. A program for a Home Visitor to use with the mother to explain the cognitive-affective development of children age 17-36 months. 3. At least eight hours of video taped sessions in which mothers work at specific tasks with their children. 4. Video tapes of mothers working with their children in instructional situations.
Evaluation procedures:	Evaluation will consist primarily of analysis of video tapes for language, control techniques and teaching stratagems. Other measures used include: 1. How I See Myself Scale (Gordon) 2. Social Reaction Inventory (Rotter) 3. DARCEE Concept Test. (We are attempting to adapt this for use with younger children.) 4. Unobtrusive Measures: a. Home Observation Guide b. Questionnaire c. Home Visitors Weekly Report

Relationship to other center projects and center focus:	This project is related to the following projects currently taking place at DARCEE: 1. Mother-Home Visitor Study 2. Head Start Home Visitor Project 3. Fort Yates Home Visitor Program (Follow-Through) All of these have some similarities of method and certain evaluation techniques in common.
Flow chart, time schedule:	Attached.

PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

Project: Study P--Elk and Duck Rivers Parent-Child Center Project




Phases
Follow-On
Plans for new study
Previous Home Visitors
Training New Home Visitors
● Process begins
■ Due date
▲ Termination of process
> Continues into 70-71
< Began prior to 12-1-68
--- Planning
—— Full Operation

PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

P-BG

Title: Study Q--Fort Yates Follow Through Consultation (OEO)

Principal Staff: Rosemary Giesy

Purpose, objective, or goals: To provide training for three home visitors and to facilitate planning and evaluation of a home visitor program for Follow Through.

Importance, need, or justification: The personnel who are primarily responsible for the implementation of the home intervention (the home visitors) are non-professionals with limited preparation for working in an educational program. The training provided by the consultant should include the information and reinforcement they need in order to conduct a successful program. Although DARCEE's approach for Follow Through is a very flexible model, the local project needs to maintain dialogue with model representatives.

Method, strategy, or design: For on-campus training these methods were used:

1. Practicum with DARCEE home visitors.
2. Observation in Early Training Centers.
3. Discussion of observations.
4. Role play and simulation of home visitor activities.

These methods are being used for in-service training:

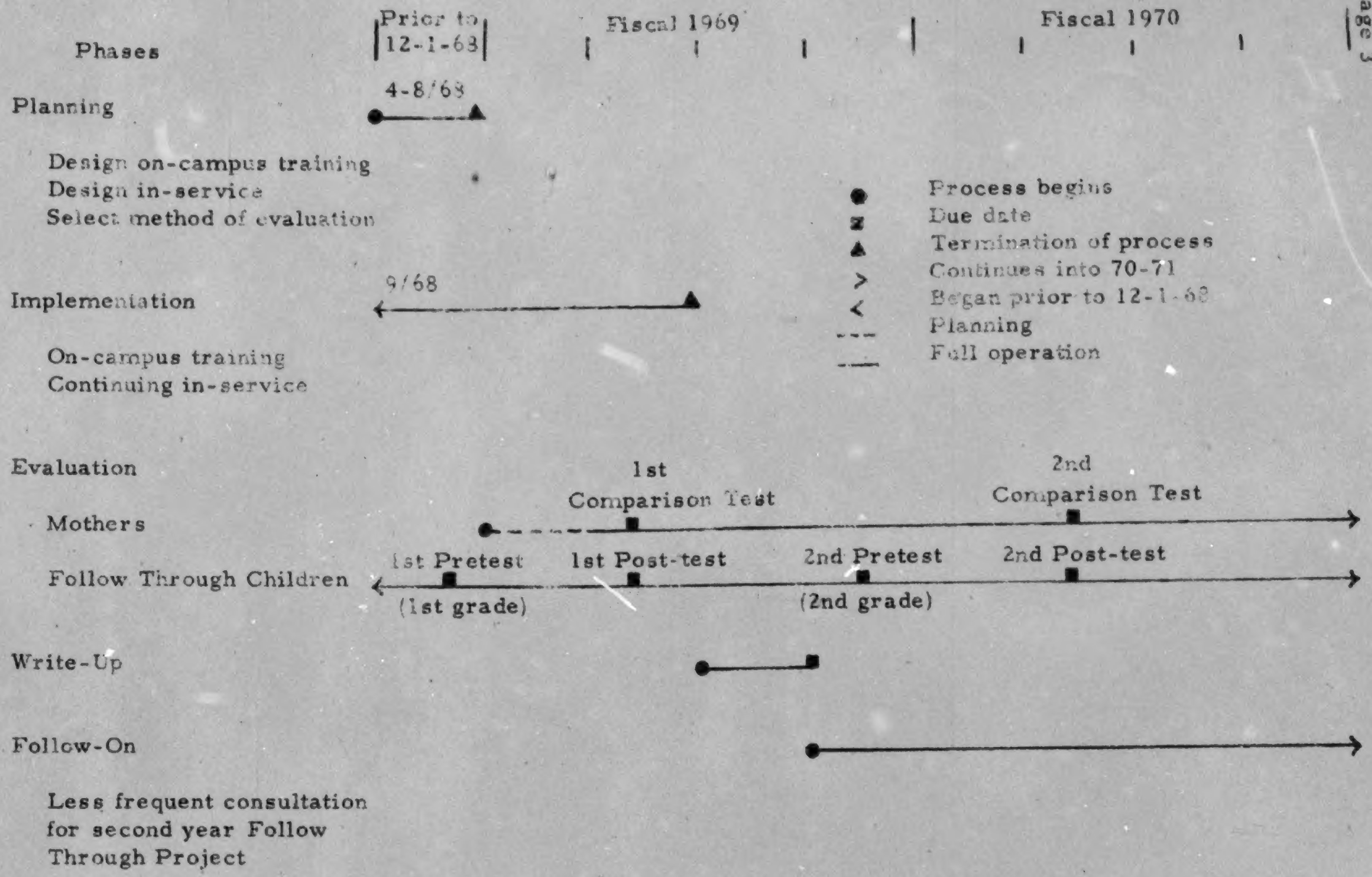
1. Role play of home visitor activities.
2. Self-evaluation (verbal and written).
3. Group planning.

The consultant can learn how to modify the program approach for this project by

Method, strategy, or design (Continued)	visiting in homes and having discussions with parents; becoming familiar with other educational programs in the area; and having discussions with other educational personnel.
Characteristics of the users:	Current users: Three home visitors in Fort Yates Follow Through project and the instructional staff. Future users: Other home visitors and Follow Through staffs (particularly Indian groups) who intend to construct a program similar to the training program for mothers developed at DARCEE.
Expected end products of results:	Report of the effect of home visitors in bringing about an effective program for parental involvement in a first grade classroom setting on an Indian reservation.
Evaluation procedures:	The achievement of the children is being measured by Stanford Research Institute. Changes in the mothers will be assessed by testing them with comparison groups at a comparable reservation school (Cannonball) and at DARCEE.
Relationship to other center projects and center focus:	The program described here is loosely related to all the other programs which are developed to implement home visitor programs--Head Start Home Visitors, Mother Home Visitors, and Elk-Duck Parent-Child Center Home Visitors.
Flow chart, time schedule:	Attached.

PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

Project: Study Q--Fort Yates Follow Through Consultation



PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

P-C

Title: Ecological Studies

Principal Staff: Maxine Schoggen, Melanie Sweeney, Ellen Brown, Margaret James, JoAnn Pool

Purpose, objective, or goals: To study the impact of the social environment on three-year-old children in three groups, Urban Low Income, Rural Low Income, and Urban Upper Income homes. Particular emphasis will be placed on the input to the child from the mother.

Importance, need, or justification: The current emphasis on early education and intervention suggests that early experiences of the child are of extreme importance. Little is known about the actual behavior of mothers toward their young children. The present project attempts to make inroads into this gap by collecting a pool of specimen records of the behavior of three-year-old children in homes together with the behavior of others in the home toward the child. The goal of all analyses is to specify differences and/or similarities in the impact of the social environment on the child among the children in the three groups mentioned.

Method, strategy, or design. The specimen record of behavior is the raw material of the study. Analysis will be made of the Environmental Force Units (EFU), i.e., every action by agents in the environment

1. Vis-a-vis the child
2. With an end-state for the child stated or implied by the behavior of the agent
3. Which is recognized by the child.

Some analysis will also be made of episodes of the child's own behavior. The population groups will be compared on the analysis

Method, strategy, or design (Continued)

of the EFU. Further, objective ratings of the home environment will be made which will allow the families to be rank ordered across groups. Analysis of the EFU of mothers can then be correlated with a rank ordering of a composite rating which combines the Objective Home Environment scale with a Socio-Economic-Education scale.

Characteristics of the sample:

Eight, three-year-old children from each of three Socio-Economic-Income groups, Low Income Urban, Low Income Rural, and Upper Income Urban, comprise the sample. The twenty-four children come from families which have from two to ten children. The Low Income Rural families are all white. Half of the two Urban groups are Negro families. Effort has been made to match number of siblings, and position of the child in the family across groups. There has been some success in this which is, however, probably inadequate for a matched-pairs design. Each child will be observed for a total of approximately 200 minutes spread over eight observational periods.

Expected end products of results:

The groups can be compared as to such things as Rate of EFU, Percent of EFU with siblings as agents, Percent of EFU with mother as agent. The analysis of the content of the EFU, analyzed via a behavior coding system, will also be made across groups. It is also anticipated that the composite rating, mentioned earlier, may relate to some facets of the analysis of the behavior of mothers to their children.

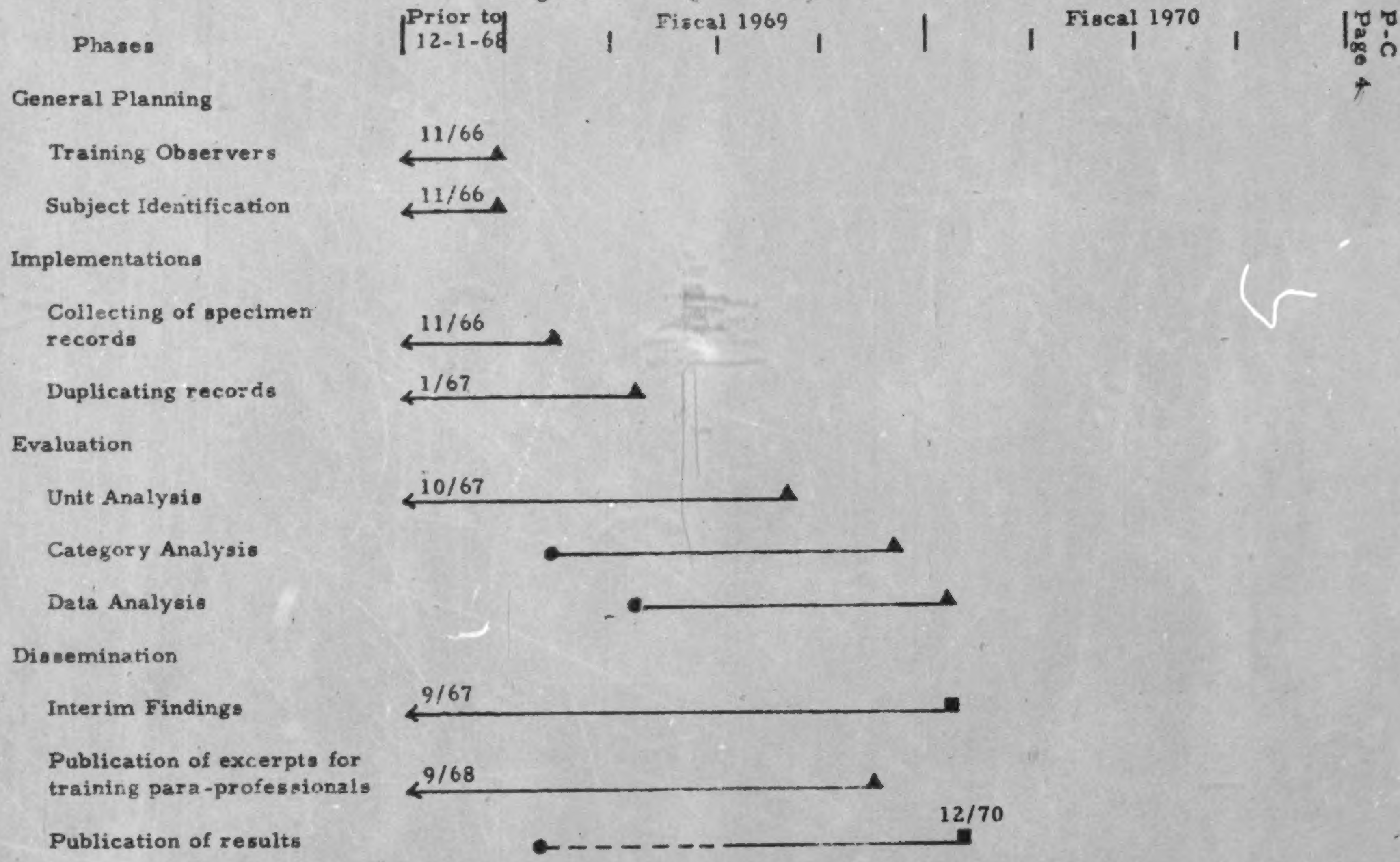
Evaluation procedures:

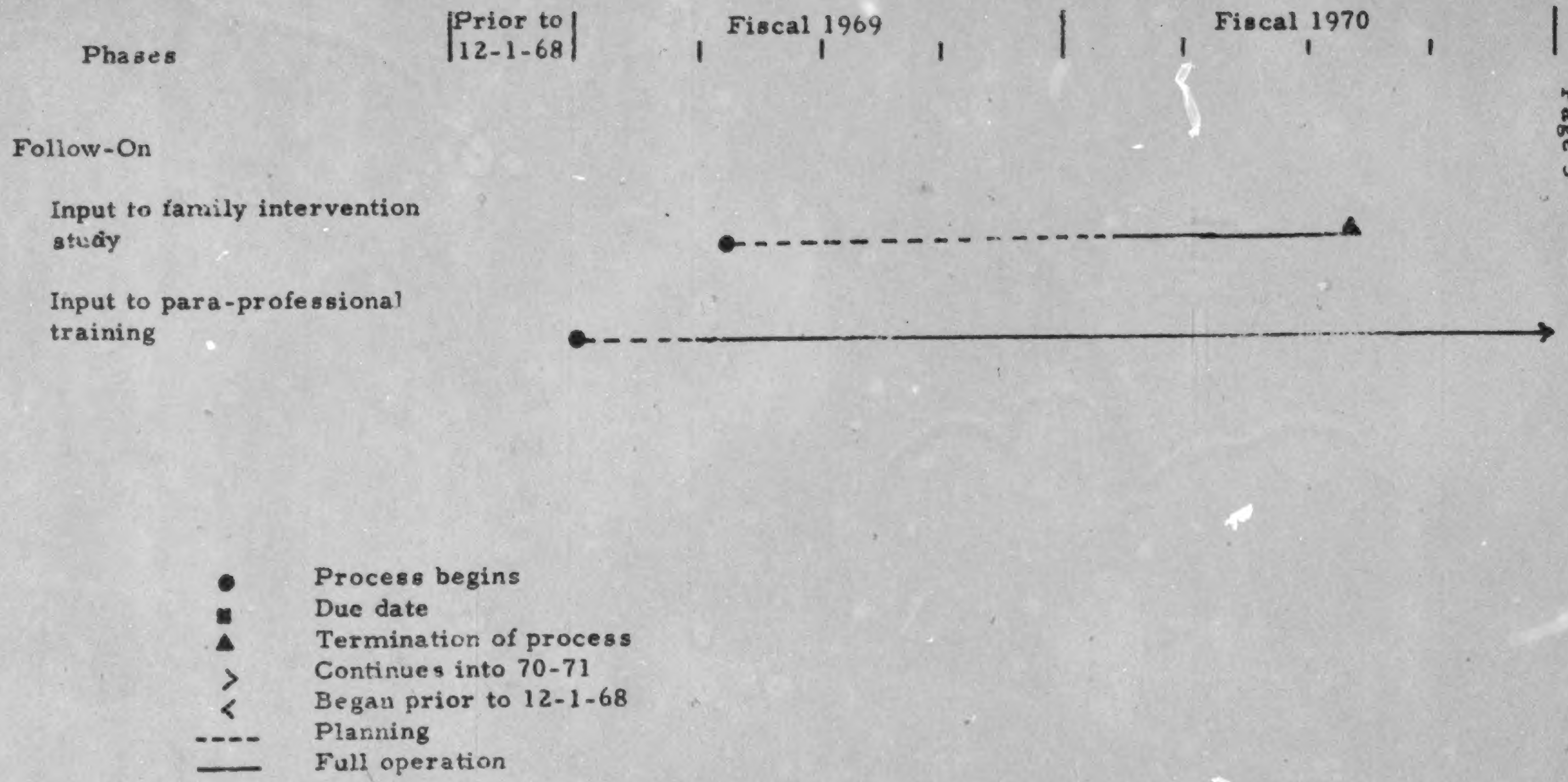
The data analysis should indicate whether the method is fruitful for this kind of investigation. Other evaluation is not planned.

Relationship to other center projects and center focus:	Input and Output to other parts of DARCEE have been characteristic of this program since its inception. For example, the idea of home organization variables has been an outgrowth of, and feeds into, the mother-home visitor studies. A projected handbook of excerpts from specimen records, designed to aid in the training of paraprofessionals engaged in preschool or early elementary school work will be tested in the training situation and revised according to this experience. The specimen records can be viewed as a pool of raw materials from which other centers might draw. Additionally, some of the content analyses lend themselves to comparison with the Teaching Styles of Shipman and Hess and the APPROACH method of Bettye Caldwell.
Flow chart, time schedule:	Attached.
Linkages of activities within the program:	The Program consists of only one project, Study M, Reinforcement Patterns in the Home Life of Deprived Children in Urban and Rural Areas.

PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

Program: Ecological Studies




Phases
Prior to 12-1-68
Fiscal 1969
Fiscal 1970
Follow-On
Input to family intervention study
Input to para-professional training
● Process begins
■ Due date
▲ Termination of process
> Continues into 70-71
< Began prior to 12-1-68
---- Planning
—— Full operation

PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

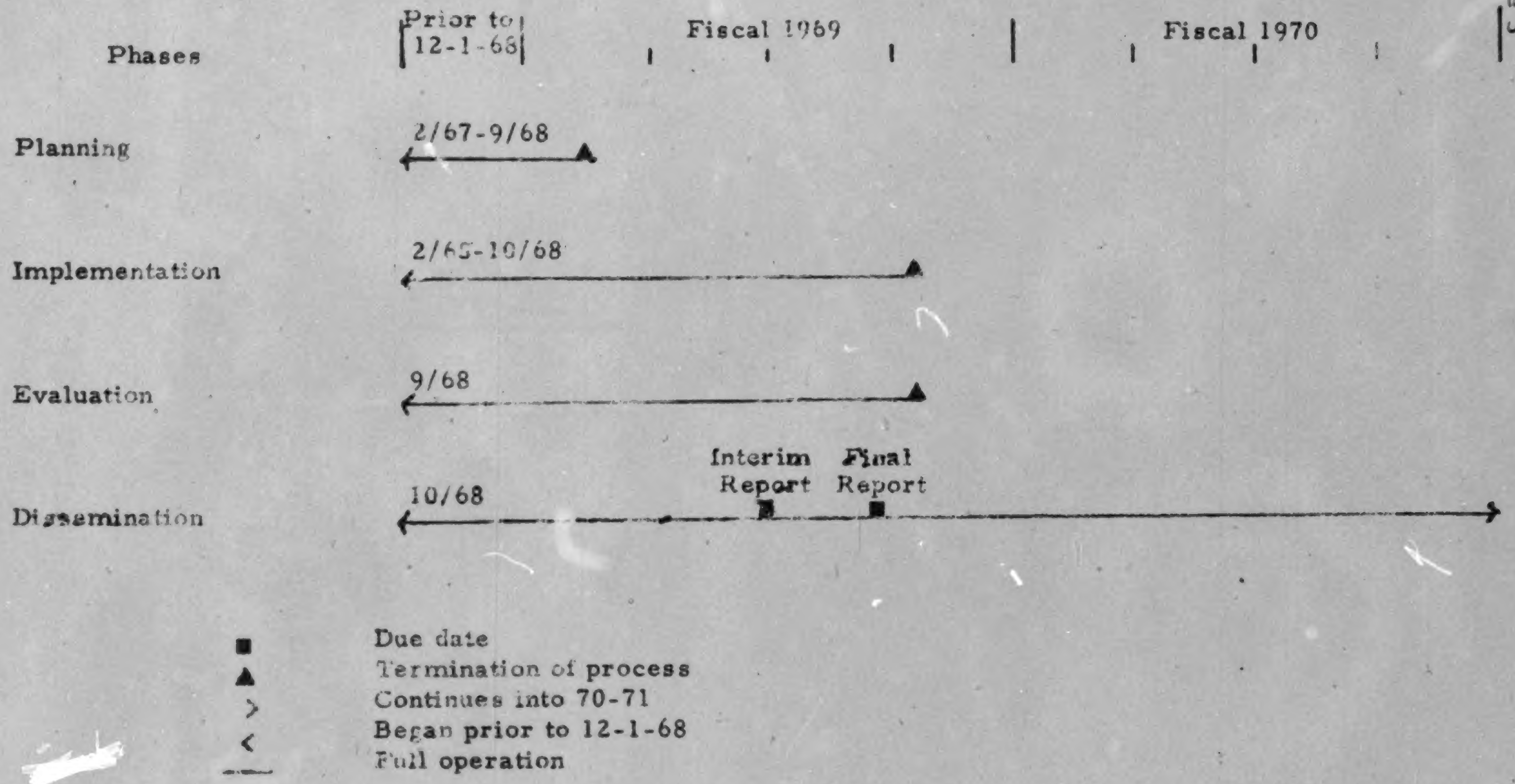
P-D

Title:	Individual Characteristics
Principal Staff:	B. Gilmer, C. Mumbauer, J. Aldous
Purpose, objective, or goals:	To increase understanding of the development of cognitive and social functioning of young children, especially as influenced by particular environmental factors relating to family and home.
Importance, need, or justification:	Present research indicates that the life style of the family has an effect on the intellectual functioning and social adjustment of the child. If education is to be improved, it is necessary to uncover the pertinent variables that influence the child's ability to perform. Amelioration of the situation that mitigates against the disadvantaged child can come only through the use of principles based on relevant research.
Method, strategy, or design:	Especially designed interviews and rating scales are being used to assess environmental organization of the home and perception of the children regarding the role of the parent. Also, disadvantaged and advantaged children will be compared with regard to effective functioning and under various experimental conditions.
Characteristics of the sample:	The sample will consist of children ranging in age from four years old to middle childhood. Both Negro and white children from various socio-economic strata will be used for comparison purposes. One portion of this sample will consist of mothers of children in the DARCEE Early Training Centers.

Expected end products of results:	The development of curriculum and intervention methods could be greatly facilitated by knowledge of the relationship of environmental factors to social and conceptual development. More appropriately designed educational procedures would be possible employing information of this type. At least one scholarly paper will appear in an appropriate journal.
Evaluation procedures:	Pre- and post-test will be administered and appropriate comparisons will be made. Quantification wherever possible will provide data for statistical procedures to evaluate the effects of various treatments. Replication of Study J, Adult Roles, in Another Country will provide information for cross cultural comparisons.
Relationship to other center projects and center focus:	This research will generate information regarding the development of cognitive and social functioning in young children. Any program dealing with the education of young children should find the results useful. Intervention and curriculum programs stand to benefit from this research.
Flow chart, time schedule:	Attached.
Linkages of activities within the program:	As stated in Importance and Relationship sections.

PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

Program: Individual Characteristics



PEABODY DEMONSTRATION AND RESEARCH CENTER
FOR EARLY EDUCATION

P-DA

Title: Study H--Concept Development

Principal Staff: Barbara Gilmer, Iris Buhl, Kathy Olley, Jane Bridgman, Matilda Tine'

Purpose, objective, or goals: A common characteristic of disadvantaged subcultures is a noticeable lack of temporal and spatial organization within a family situation. An attempt is being made to assess the environmental circumstances from which the two target groups of DARCEE Early Training Center children come. This is being done with interviews and rating scales designed for this study. The children are to receive pre- and post-measures of conceptual level of functioning which will be compared to the organizational rating of the family and home.

Importance, need, or justification: It is hypothesized that the degree of environmental organization has an affect upon the life style of the family and has a relationship to intellectual functioning, self-perceptions, conceptual development, and approach to problem-solving situations.

Method, strategy, or design: An extensive type of home interview and a rating scale to assess environmental organization are being used. The DARCEE Picture Concept Test is being administered as pre- and post-assessments of development of categorizing strategies and concept development over time.

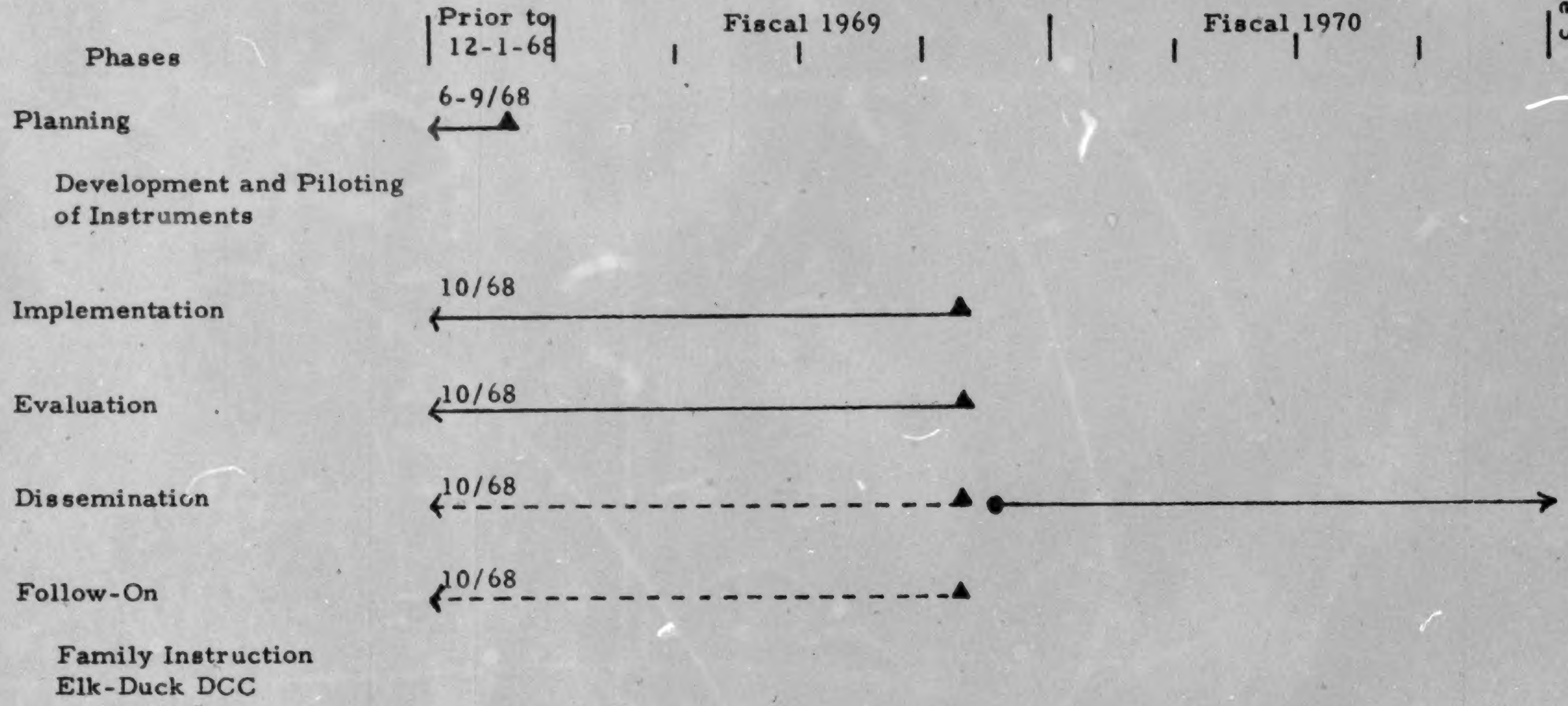
Characteristics of the sample: The sample consists of the forty mothers and children currently participating in the two DARCEE Early Training Centers.

Expected end products of results: Establishment of a functional relationship between environmental organization and concept development would permit finer

Expected end products of results (Continued)	characterization of sample populations. Intervention methods and curriculum implementation would be facilitated.
Evaluation procedures:	Home interview and rating procedures begin with the Early Training Centers opening, as does part of the testing evaluation. Any post testing will be at the termination of the school period. When the data is complete, appropriate comparisons will be made.
Relationship to other center projects and center focus:	There is the potential of circuit information loop to facilitate common intervention program concerns, finer discrimination of and grouping with homogenous characteristics of the subculture of deprivation.
Flow chart, time schedule:	Attached.

PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

Project: Study H--Concept Development



- ● Process begins
- ▲ Termination of process
- > Continues into 70-71
- < Began prior to 12-1-68
- ---- Planning
- ——— Full operation

PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

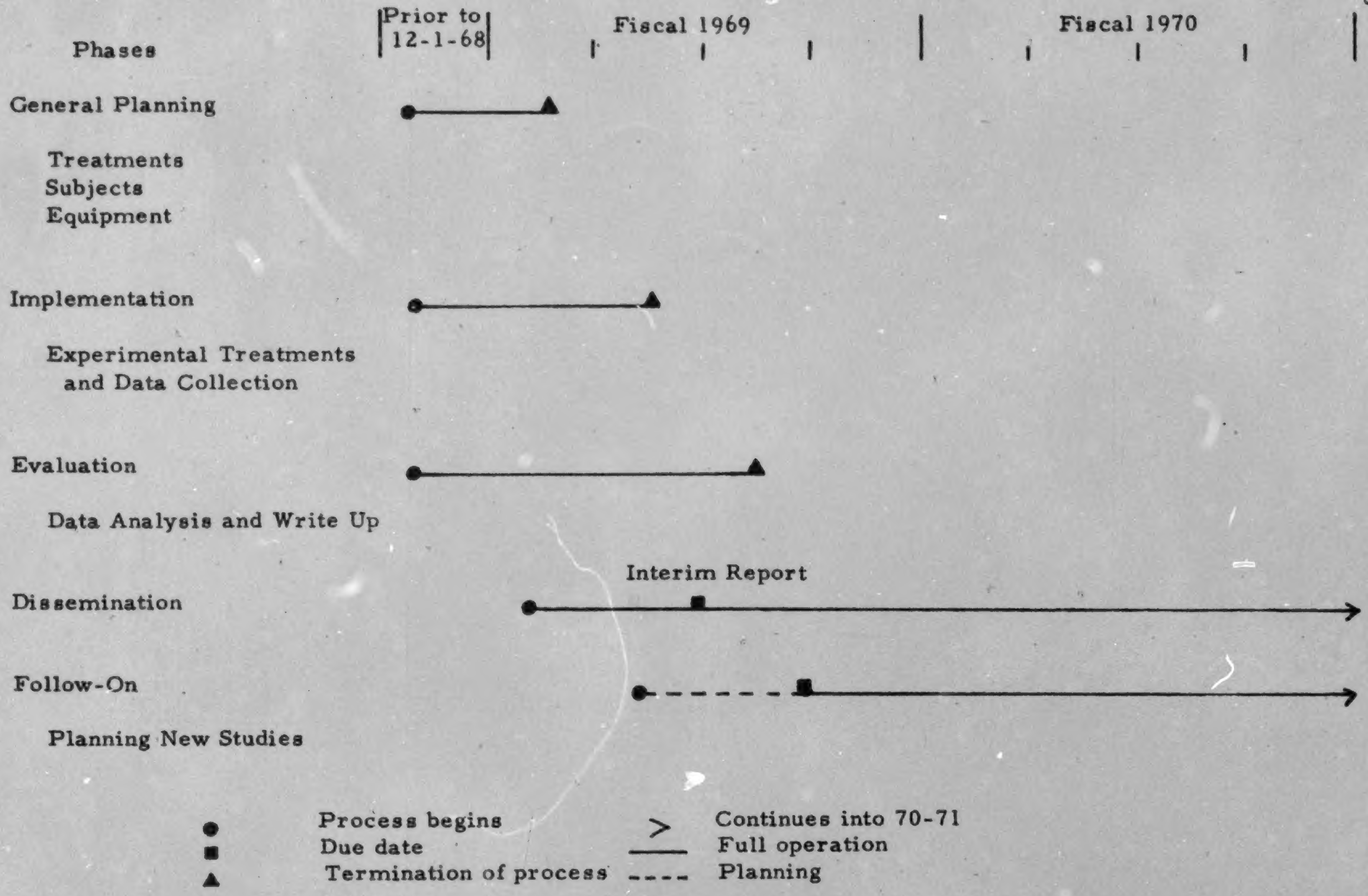
P-DB

Title:	Study G--Cognitive Style
Principal Staff:	C. Mumbauer, C. Ellsworth, M. E. Byrd
Purpose, objective, or goals:	To increase understanding of the development of cognitive style and its role in effective functioning in children, particularly culturally disadvantaged children.
Importance, need, or justification:	This research is designed to add to the fund of basic knowledge about the child with an emphasis on the culturally disadvantaged child. In increasing basic knowledge about child development, such research is providing blocks in the foundation upon which more efficient education and enrichment can be designed.
Method, strategy, or design:	Both subjects and experimental variables are controlled and/or manipulated in these investigations. The responses of children from different socio-economic backgrounds, usually advantaged and disadvantaged, are compared on various measures of effective functioning and under varying experimental conditions.
Characteristics of the sample:	Young children ranging in age from early fours to middle childhood and varying in socio-economic backgrounds are the focus of these investigations.
Expected end products of results:	Results from these investigations of cognitive style should provide useful information about the way in which children develop along this dimension. This information should facilitate the development and design of more efficient education and change programs as well as evaluation of such programs.

Evaluation procedures:	Evaluation of the influences of socioeconomic background, age, and experimental treatments in terms of quantification of subjects' response is an essential and intrinsic part of the research design. Statistical procedures will be used to evaluate variable effect.
Relationship to other center projects and center focus:	Results from these basic research projects are designed to feed increased understanding of child into the developed preschool programs. Both curriculum development and evaluation procedures should be facilitated by this research.
Flow chart, time schedule:	Attached.

PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

Project: Study G--Cognitive Style



PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

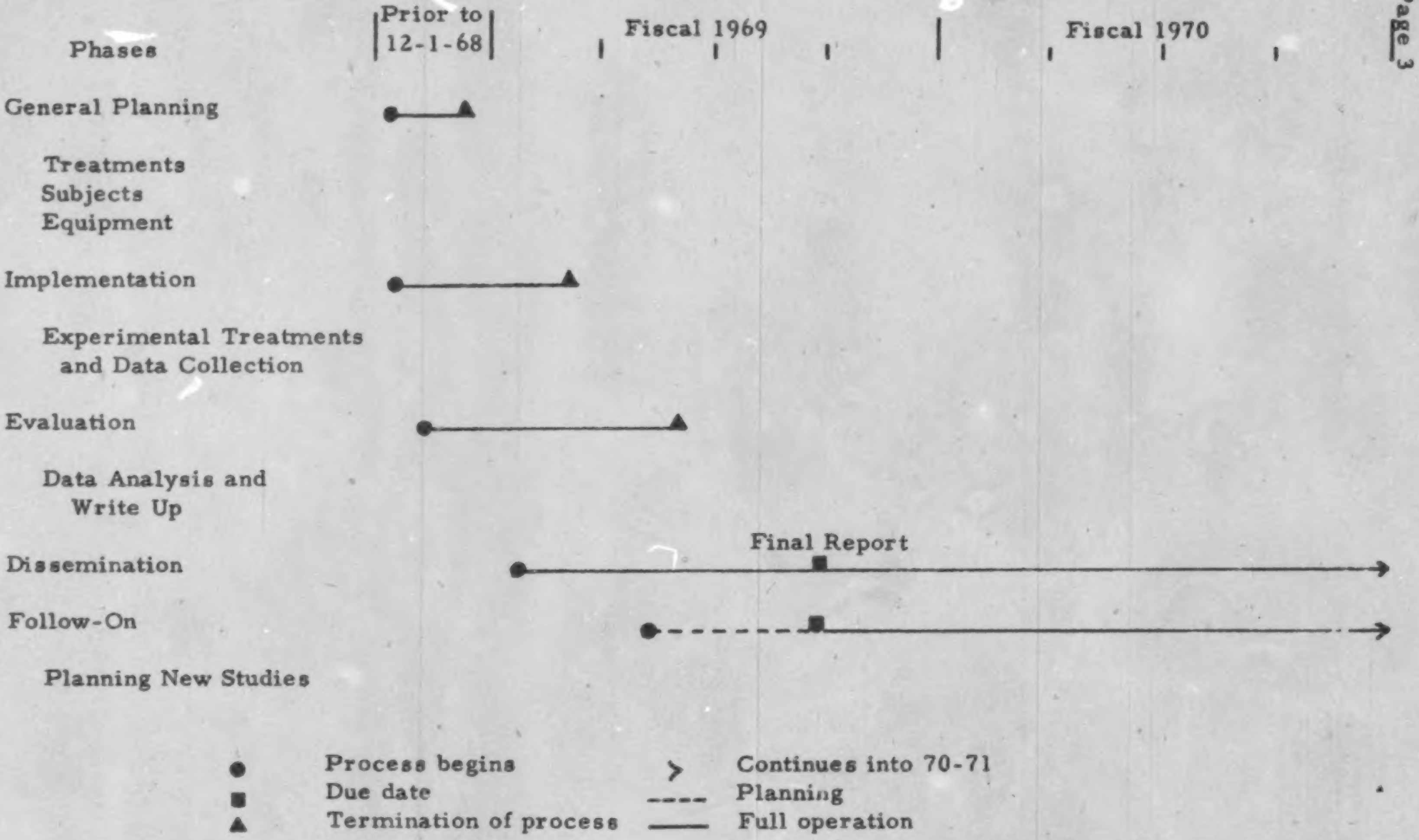
P-DC

Title:	Study I--Character Development
Principal Staff:	C. Mumbauer, C. Ellsworth, M. E. Byrd
Purpose, objective, or goals:	To increase understanding of character development or more specifically resistance to temptation and persistence in young children, particularly disadvantaged children.
Importance, need, or justification:	This research is designed to add to the fund of basic knowledge about the child with an emphasis on the culturally disadvantaged child. In increasing basic knowledge about child development, such research is providing blocks in the foundation upon which more efficient education and enrichment can be designed.
Method, strategy, or design:	Both subjects and experimental variables are controlled and/or manipulated in these investigations. The responses of children from different socio-economic backgrounds, usually advantaged and disadvantaged, are compared on various measures of effective functioning and under varying experimental conditions.
Characteristics of the sample:	Young children ranging in age from early fours to middle childhood and varying in socio-economic backgrounds are the focus of these investigations.
Expected end products of results:	Results from these investigations of character development should provide useful information about the way in which children develop along this dimension. This information should facilitate the development and design of more efficient education and change programs as well as evaluation of such programs.

Evaluation procedures:	Evaluation of the influences of socio-economic background, age and experimental treatments in terms of quantification of subjects' response is an essential and intrinsic part of the research design. Statistical procedures will be used to evaluate variable effect.
Relationship to other center projects and center focus:	Results from these basic research projects are designed to feed increased understanding of child into the developed preschool programs. Both curriculum development and evaluation procedures should be facilitated by this research.
Flow chart, time schedule:	Attached.

PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

Project: Study I--Character Development



PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

P-DD

Title: Study J--Adult Roles

Principal Staff: Joan Aldous

Purpose, objective, or goals: To compare the perceptions of white and Negro lower income preschool children who come from father-absent and father-present families.

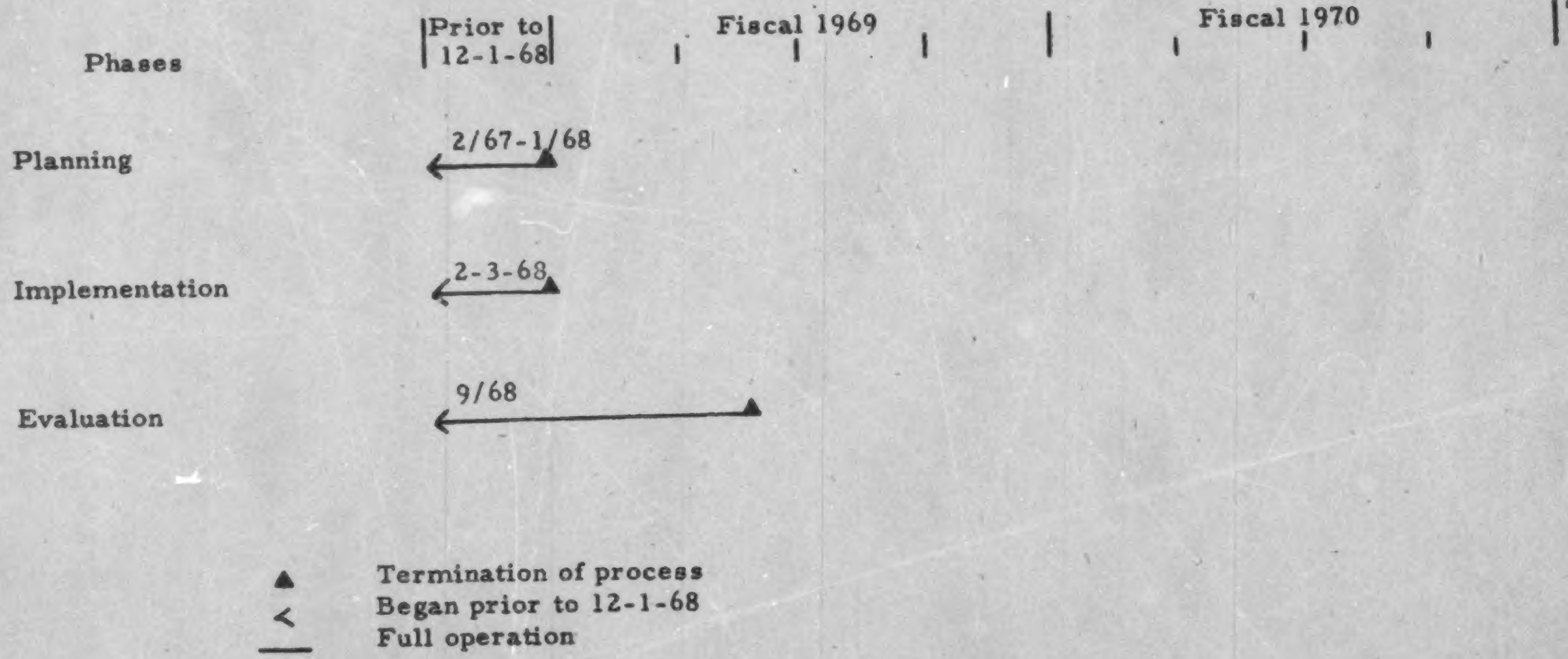
Importance, need, or justification. A number of Dysfunctional behaviors appear to be associated with father-absence in low income homes particularly among boys. These include arrests for illegal behavior and poor academic performance and marital failure. The reasons for this association is not clear, and the operating factor may not be father-absence as such but lack of parental attention or the attitude of the mother toward males in general. Research, however, suggests that differentiating characteristics between the father-absent and father-present occur when fathers are gone during the three to six age period of children. This is the period when children are acquiring their sense of sex identity and their knowledge of the behaviors associated with the sexes. If role theory is correct, the child who lacks a role model to observe in the home or to interact with may have some difficulty learning what behaviors are associated with that role. This is particularly true of young children who are more home bound and less able to observe men in other settings. The present study will indicate whether there is a difference in the behaviors preschool children without fathers and those with fathers perceive appropriate for adult men and women. If children without fathers are slower in learning the instrumental aspects of masculine behavior, this may be one of the links

Importance, need, or justification (Continued)	in the causal chain joining father-absence to poorer performance in situations demanding achievement and responsibility.
Method, strategy, or design:	An interview schedule with simply worded questions was developed for use with low income children with limited vocabularies. In answering such questions as "Who is boss?" and "Who is the nicest to the boy (girl)?" the individual child was presented with pictures of a man, woman, small boy or small girl, one of whom he could choose to point to for his answer. Pre-testing of the schedule was begun in January, 1968. Interviewing began in February, 1968, and continued through March, 1968. The data are now being analyzed.
Characteristics of the sample:	The sample consisted of 277 five and six-year old children divided as follows: 17 father-present white males; [illegible] father-absent white males; 18 father-present white females; 12 father-absent white females; 34 father-present Negro boys; 41 father-absent Negro boys; 30 father-present Negro girls; 39 father-absent Negro girls. These children all came from low income families. The father-absent children had not seen their fathers for at least a year. There was also a same-aged comparison middle income sample of father-present children as follows: 12 Negro boys; 9 Negro girls; 23 white boys; 21 white girls.
Expected end products of results:	A paper to be published in a scholarly journal.
Evaluation procedures:	To provide comparison groups to examine the consistency of the results, the low income samples were drawn from a highly urbanized southern center (Nashville); small towns in Tennessee and Mississippi; and rural areas in Tennessee and Mississippi. The study is also being replicated in rural

Evaluation procedures (Continued)	Japan by Professor Takeji Kamiko of Osaka City University which should provide some indication as to whether the results can be generalized across cultures.
Relationship to other center projects and center focus:	The Intervention Program is concerned with improving the self-concept and feelings of identity of low-income youngsters. Studies such as this contribute to an understanding of the relevant variables.
Flow chart, time schedule:	Attached.

PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

Project: Study J--Adult Roles



PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

P-E

Title: Supportive Activities

Principal Staff: R. Wilcoxon, G. Mann, B. Gilmer, J. Camp, J. Miller, I. Buhl

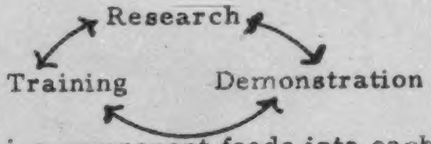
Purpose, objective, or goals: The general purpose is implied in the title of this program. It serves, through the dissemination activities, to tie together the various projects and to disseminate them to a large and varied group of professionals and non-professionals; it serves to supply major research needs across the several projects, particularly in terms of instrumentation.

Importance, need, or justification: The dissemination project and that of curriculum and materials serve largely as communication vehicles to disseminate our products to a wider range of persons both through technical and specific reports to make replications and adaptations possible in other settings and through publications aimed at a more general audience. Other supportive activities are directed at taking care of certain cross-project needs.

Method, strategy, or design: Since this characterization is somewhat inappropriate for supportive activities, instead, the role of supportive activities which relate to extra-DARCEE personnel in the overall strategy of the total DARCEE program is presented here. DARCEE has three important components: research, training, and demonstration. Most of the research is supported by OE and some of the demonstration. OEO contributes some funds to research, supports the training operation almost in its entirety, and supports approximately one-half of the demonstration endeavors. The general approach we have taken does not follow a

Method, strategy, or design (Continued)

linear model: research--demonstration--training. To attempt to cut down on the decades of lag between research and practical application, we have instead conceptualized our overall strategy as a circular one thus:



Each major component feeds into each of the other two and also draws from them. In this way research is put into training immediately in our own operation, it is conveyed to the demonstration component and each of the two latter in turn contribute to the research component and to each other. It might be added parenthetically that we consider our career training program one of the most effective ways to shorten the gap between research and training--if we can train persons who can and do assume leadership roles.

Characteristics of the users:

These fall into roughly four categories:

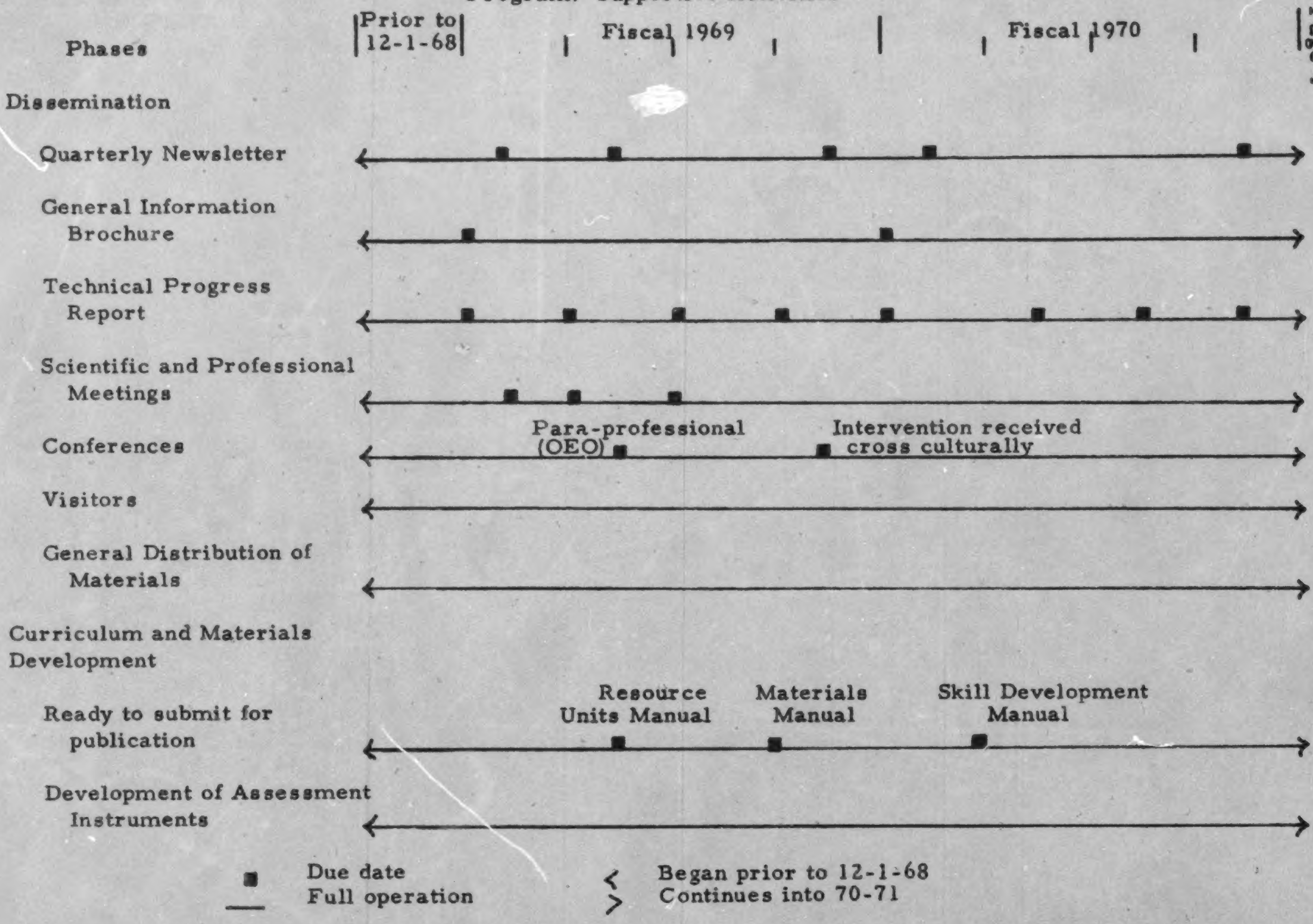
1. Students in training
2. Professionals in early education at all levels from classroom teachers to the national director of infant school for one of the British Commonwealth Nations
3. Educational and psychological researchers
4. Persons involved in social and political action

We have been particularly concerned with the preparation and distribution of materials suitable for Congressmen, community leaders, and national, state, and local groups concerned with public welfare, especially as it relates to young children.

Expected end products of results:	Cf. flowchart. For this program the chart presented is a timetable of expected products.
Evaluation procedures:	For the assessment project evaluation procedures are built into methods of validating the tests, first on our own sample, and later with extra-DARCEE groups. Since our curriculum approaches are basically the preparation of already validated approaches and materials, further evaluation will largely consist of efforts to keep up with groups who use these materials and to take advantage of what evaluation procedures they are using or that we can jointly work out. Our general demonstration and dissemination efforts are evaluated largely in terms of the general demands for publications as categorized by users and careful records of visitors to our centers and their stated concerns when visiting.
Relationship to other center projects and center focus:	Dissemination activities are related to all other DARCEE concerns in the obvious way of being the general path by which findings and products are communicated to others. The curriculum and materials work grew largely out of our intervention studies. The assessment project is most heavily used in the intervention studies but also supports the individual characteristics program. In turn the intervention, the ecological, and the individual characteristics programs set new problems for the assessment project.
Flow chart, time schedule:	Attached.
Linkages of activities within the program:	Included in "Relationships" section.

PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

Program: Supportive Activities



PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

P-EA

Title: Study O--Development of Assessment Instruments

Principal Staff: B. Gilmer, I. Buhl, J. Bridgman, M. Schoggen, C. Barbrack, C. Mumbauer

Purpose, objective, or goals: For several projects, the need has become increasingly apparent for instruments to adequately assess program content and/or to serve as an indicator of achievement. These instruments are used primarily in conjunction with standardized tests or instead of them if standardized tests are unavailable or inappropriate. This evaluation process serves as a corrective function for future program planning as well as an index of performance.

Importance, need, or justification:

1. During the course of the Vertical Diffusion Study, the need for an instrument to assess conceptual development of the younger siblings was recognized and inquiry revealed that such instrumentation was not available. A similar problem emerged in the Training Trainers of Aides Study, for the children in the preschool centers, and more recently in the project involving Parent Child Centers.

2. In the DARCEE Institutes for training para-professionals working in Head Start Centers, it was necessary to assess both the curriculum used and the participants' gains in information and favorable attitudes. Similarly, assessment needs arose for the personnel with whom TTA staff worked.

3. Another area that is of intense interest to the DARCEE staff involved in the various

Importance, need, or justification (Continued)

Home Visitor projects, and in which there seems to be a dearth of instruments, is the area of mother-child interaction and maternal teaching style. Therefore, an instrument aimed at maternal teaching style was developed for the Mother and Head Start Home Visitor projects. This will also be used in connection with the Parent Child Centers. Also along this line is planned a scale for rating mother-child interaction in a teaching situation as taken from video tape.

4. In the project involving the study of organizational factors relating to the concept development of children, an observation guide and an interview were designed to tap temporal and spacial organization in the child's environment.

5. The Home Educational-Environment Index and accompanying rating scales that were originally used with Vertical Diffusion mothers were revised and re-administered. Reliability checks on ratings are now in progress.

Method, strategy, or design:

The pattern of design is such that certain areas of inquiry are approachable only through measures specifically designed for the questions asked. Surveys of available instrumentation, partial inclusion of knowledge from other preliminary attempts of multi-variable assessment, and custom-designed tests are all necessary to permit adequate data collection for program feedback. Piloting and modification allow refinement, and revision provides the opportunity to use instruments across projects within DARCEE's programs.

Characteristics of the sample:

The samples involved vary according to the design of the inquiry along the dimensions of intervention versus non-intervention effects as well as across age and program content.

Expected end products of results: Fine program content analysis is the primary achievement potential desired in addition to having obtrusive measures of behavior for dissemination purposes between programs.

Evaluation procedures: Each of these scales, insofar as possible, have been or are being checked for reliability and validity.

Relationship to other center projects and center focus: The original Basic Concept Test for use with young children has been used for criterion testing of younger siblings, and for pre-testing of children in the Mother Home Visitor Study. It has been amended for use in the TTA Study, and is being extended downward for use with children in the Parent-Child Centers.

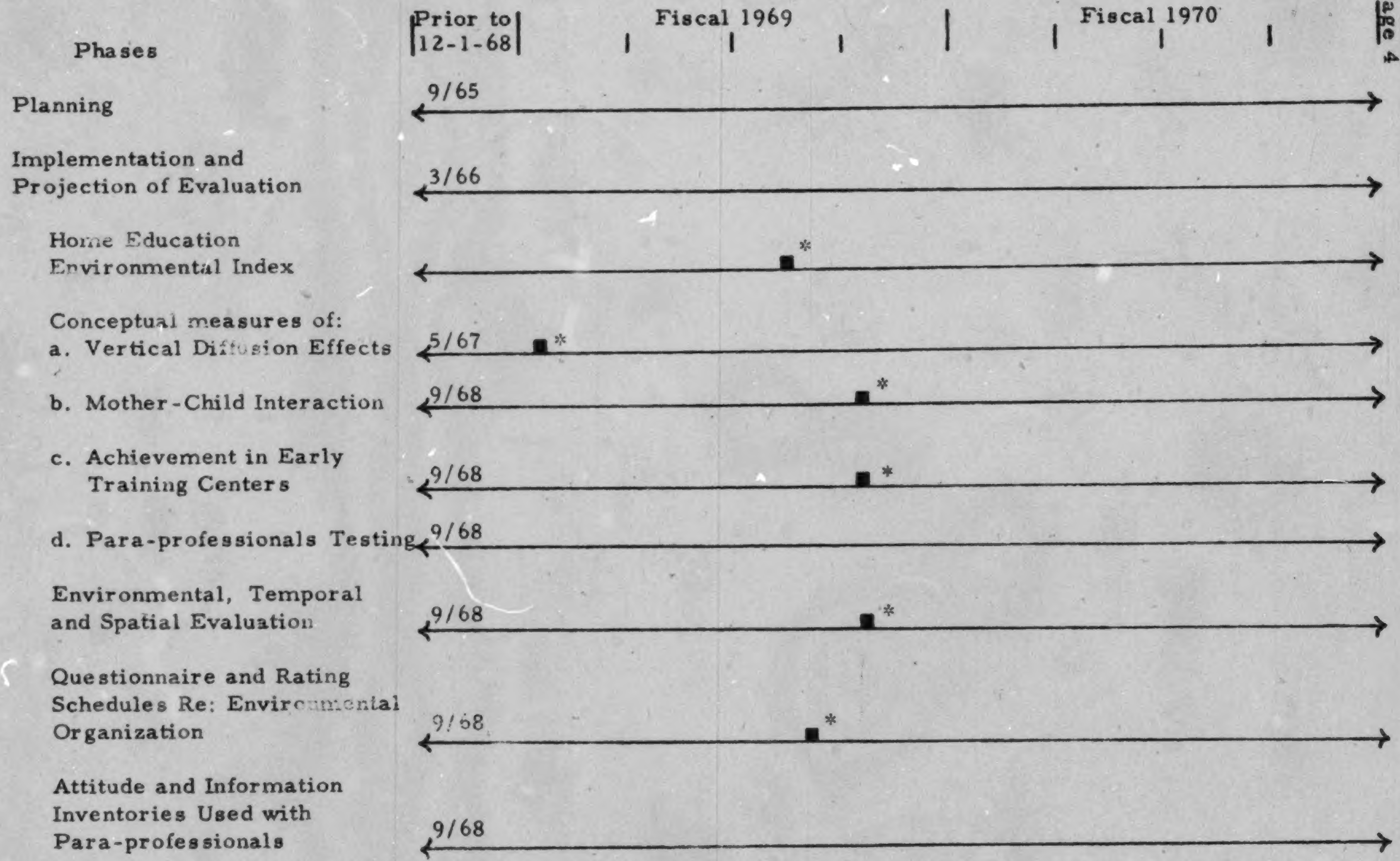
The Maternal Teaching Style observation-rating scale has been used in the Mother and Head Start Home Visitor projects, and is serving as a basis for further study in the Parent-Child Centers.

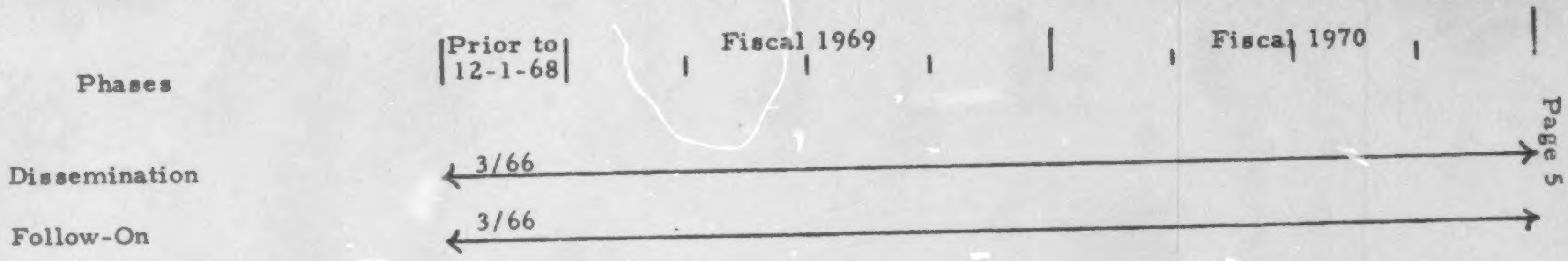
The Observation Guide for tapping environmental organization in the Concept Development project will also be slightly revised for use in the Ecological Program.

Flow chart, time schedule: Attached.

PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

Project: Study O--Development of Assessment Instruments





■ Due date
> Continues into 70-71
< Began prior to 12-1-68
| Full operation
# First Major Analysis

PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

P-EB

Title: Dissemination-Demonstration (USOE and OEO)

Principal Staff: Reba Wilcoxon, Information Officer; Gaines Mann, Orientation Specialist

Purpose, objective, or goals: Dissemination: To make known through printed materials, both general and specialized, and through photographic presentations, the purposes, methods, research results, and accomplishments of DARCEE.

Demonstration: To provide opportunities for showing and explaining to observers the programs in progress at DARCEE. These include classrooms, home visitor programs, institutes, or any research project that visitors need to see in action.

Importance, need, or justification: Both dissemination and demonstration are built into the organization to close the gap between research and practice, and to facilitate exchange of information among professionals.

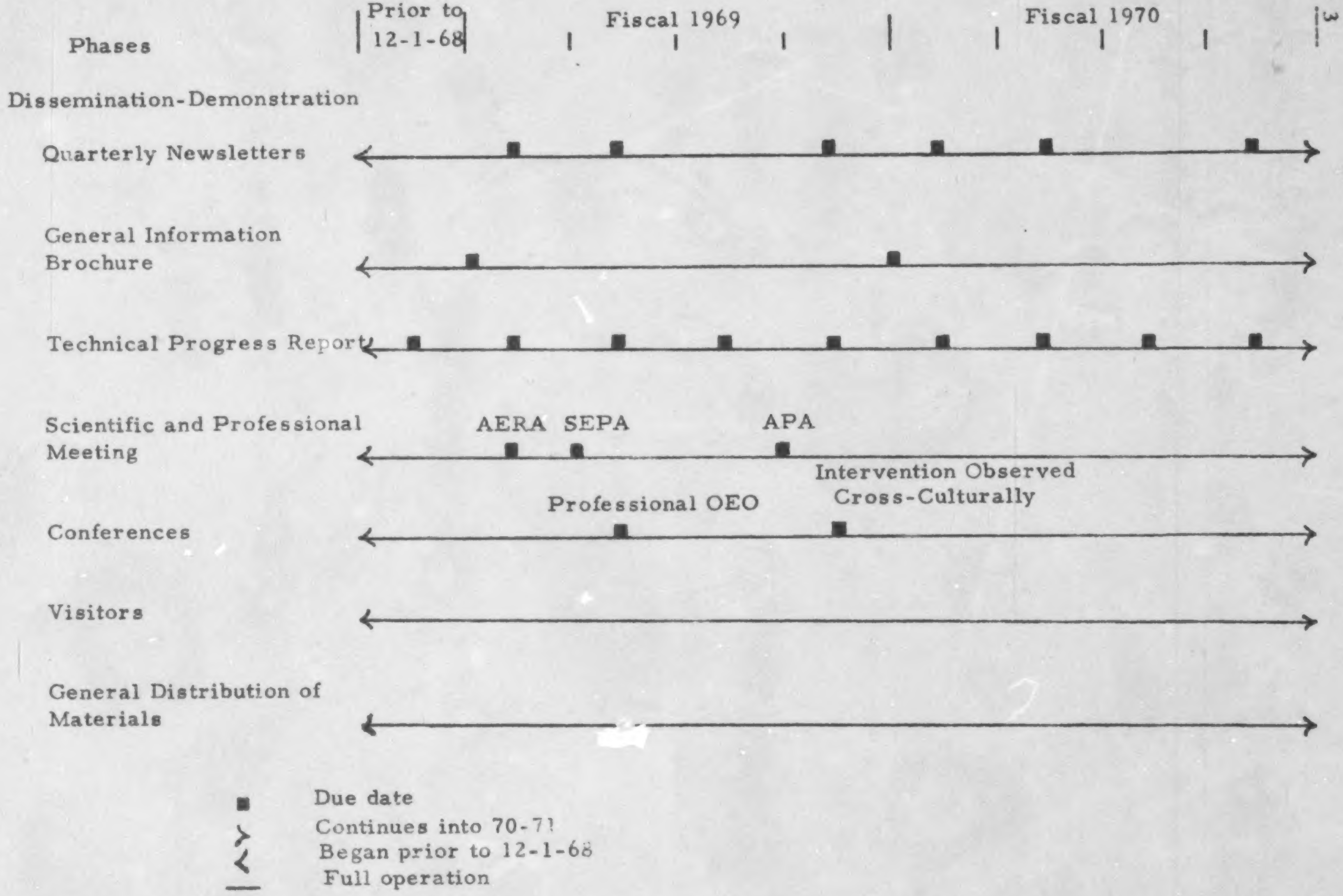
Method, strategy, or design: To accomplish the purposes stated above, the Information Office either produces or maintains the following:

1. Newsletters
2. General information brochures
3. News stories
4. Training folders to attract students
5. Slide sequences for laymen, in-service, institutes, etc.
6. Information folders for parents of children in the preschools
7. Information folders for observers at the preschools

Method, strategy, or design: (Continued)	8. Duplication and mailout of research studies 9. Permanent mailing list 10. A permanent slide file, indexed 11. A guide for all observers 12. Assistance in providing consultants or speakers for classes, and other groups expressing interest.
Characteristics of the users:	Users range from professionals to paraprofessionals to laymen--anyone concerned about educability of young children, particularly the culturally deprived.
Expected end products of results:	Same as stated under "Method, Strategy, and Design."
Evaluation procedures:	Evaluation is measured by: 1. Demand for printed materials 2. Use of slides 3. Demand for speakers and consultants 4. Number of visitors.
Relationship to other center projects and center focus:	The only applicable relationship would be acquainting other projects with results of research and with activities in progress.
Flow chart, time schedule:	Attached.

PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

Project: Dissemination-Demonstration



PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

P-EC

Title: Curriculum and Materials Development (USOE and OEO)

Principal Staff: J. Camp, J. Miller, J. O. Miller

Purpose, objective, or goals: To publish and disseminate to the public the relevant aspects of the preschool curriculum developed in Study A, Vertical Diffusion, which has been refined and validated in the two demonstration center programs during the past two years of operation.

Importance, need, or justification: There is a very urgent need in the field of preschool and primary-grade education for curriculum guides which relate specifically to the educational needs of culturally deprived children. The initiation of many federally sponsored programs for this population of children, and the subsequent hiring of many inexperienced professionals and para-professionals as teachers, creates a heavy demand for educational supervisors as well as program guides and teacher-training materials. It is imperative that methods, materials, and curriculum design which have been developed and successfully used with both urban and rural, white and black, deprived children be made available for public use.

Method, strategy, or design: Formal plans for a series of publications were initiated in July, 1968. These publications will cover the following areas of the preschool program:

1. Developmental curriculum
2. Skill development
3. Positive motivations and attitudes
4. Instructional resource units
5. Instructional materials and devices

Method, strategy, or design (Continued)

6. Pre-service and in-service training
7. Classroom management and behavioral control

These areas were rank ordered according to their relevance to the field. Areas 2, 4, 5, 6 were selected as the areas of concentration for the funding year 1968-69.

At present, the principal staff members and supportive personnel are engaged in preparing the instructional units publication, planning the instructional materials and devices manual, and verifying copyright and patent regulations with the appropriate government agencies.

Characteristics of the users:

Internal:

1. Teaching staff of the two demonstration Centers, urban and rural.
2. Project directors and personnel in intervention field research--Study B, Training Trainers of Aides, and Study C, Mother-Home Visitor.

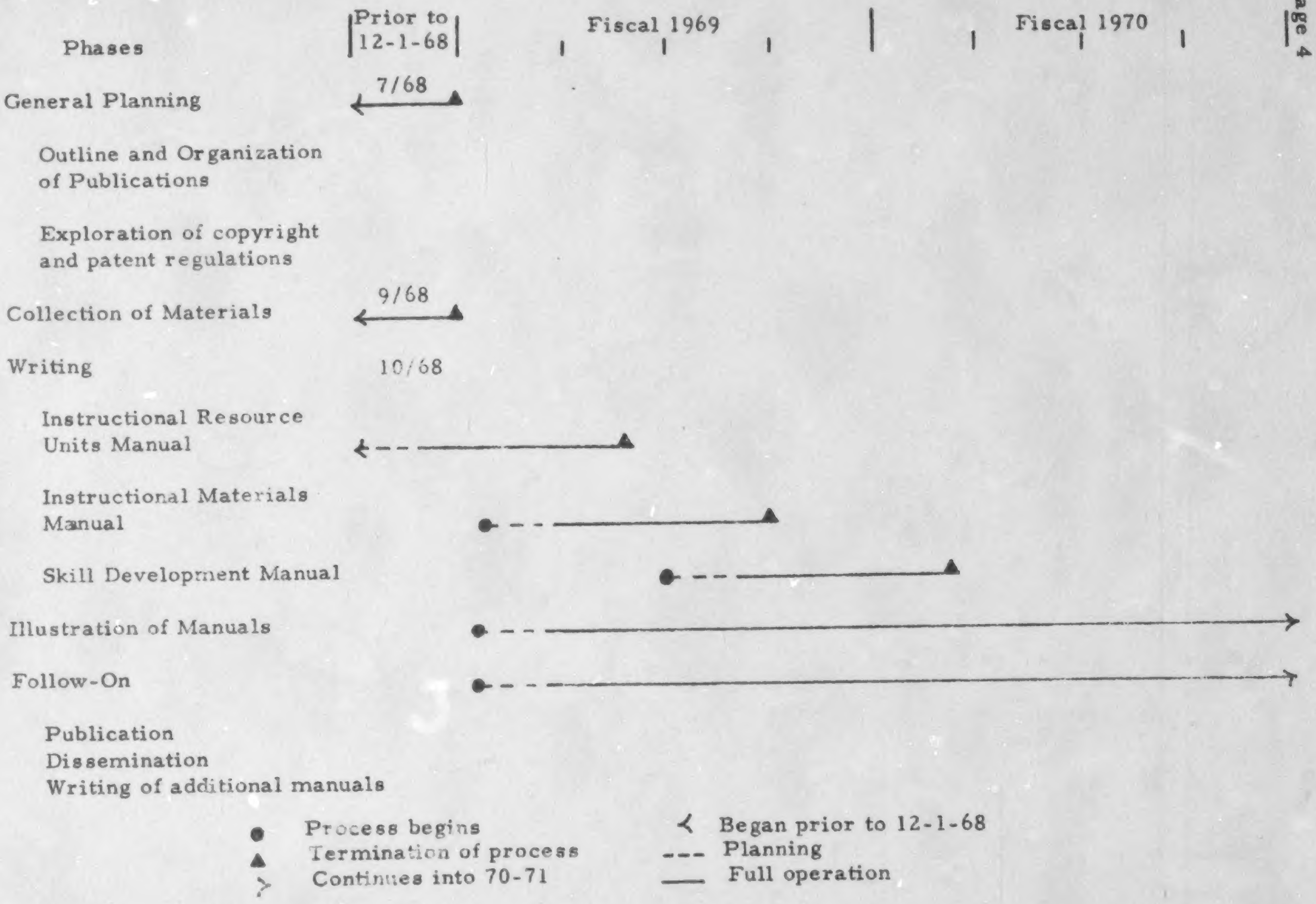
External:

1. Teachers of young children, both in service and in training, at the preschool and primary-grade levels.
2. Students in degree programs specializing in early childhood education, special education, and elementary education.
3. Educational supervisors who are responsible for designing curriculum, selecting instructional materials, and training teachers for the education of young children, particularly deprived children in Head Start and child development centers.
4. Other research and development centers concerned with the education of deprived children and/or the comparisons of intervention treatment effects, using various curriculum approaches.

Expected end products of results:	As stated in the "Methods" section, a series of manuals. The exact number of separate publications has not been determined. Where appropriate, several program areas may be included in one volume.
Evaluation procedures:	The use of the publications in the educational field as indicated by quantity of manuals sold.
Relationship to other center projects and center focus:	Internal: The manuals can serve as: 1. The basis for future curriculum development and refinement in our Early Training Centers 2. The materials for the training of professionals and para-professionals in special short-term workshops for educational supervisors, teachers, aides, home visitors 3. The materials for field research projects such as Study B, Training Trainers of Aides, and Study C, Mother-Home Visitor. External: Various aspects of the publications could be relevant to the curriculum development and research in the Arizona, Cornell, Kansas and Syracuse components of the Laboratory.
Flow chart, time schedule:	Attached.

PEABODY DEMONSTRATION AND RESEARCH CENTER FOR EARLY EDUCATION

Project: Curriculum and Materials Development



SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

70706-S

Number	Program, Project/Activity Title	Principal Investigator
S-A	Analysis of Cognitive Behaviors	
-AA	Concept Learning in Free Play and Structured Settings	W. J. Meyer
-AB	Hierarchial Learning Program	W. J. Meyer
-AC	Orienting Behavior and Discrimination Learning	W. J. Meyer
-AD	Development of Quantitative Concepts	John W. Wilson
-AE	Perceptual Development	D. W. Smothergill
-AF	Child Characteristics and Cognitive Behavior	V. C. Hall
-AG	Language Development--Language Training Program	V. C. Hall
-AH	Interference Effects in Paired Associate Learning	V. C. Hall
-AI	Knowledge Acquisition--Analysis of Psuedo Reading Task	V. C. Hall
-AJ	Parental Influence on Color Preference of Four-Year-Olds	M. F. Andrews
S-B	Social Emotional Development	
-BA	Factor Influencing Imitation Behavior	D. W. Smothergill
-BB	Emotional Arousal and Social Context	J. C. Schwarz
-BC	Methods of Introduction to Nursery School	J. C. Schwarz
-BD	Correlates of Peer Attachment Status	J. C. Schwarz
-BE	Learning Social Roles	W. J. Meyer
S-C	The Longitudinal Evaluation Program	
-CA	Assessing Preschool Behavior	W. J. Meyer
-CB	Color Attribute Index	M. F. Andrews

SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

707[illegible]-S

Number	Program, Project/Activity Title	Principal Investigator
-CC	Development of APPROACH	B. M. Caldwell
-CD	Methods of Assessing Social-Emotional Development	J. C. Schwarz
-CE	Assessment of Language Behavior	V. C. Hall
-CF	Measuring Mathematical Concepts	John W. Wilson
S-D	Liverpool Laboratory Nursery School	N. Smothergill
S-E	Administration	W. J. Meyer

SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

S-A

Title:	Analysis of Cognitive Behaviors
Principal Staff:	J. Wilson, W. J. Meyer, V. Hall M. Andrews, D. Smothergill
Purpose, objective, or goals:	To examine, from a number of theoretical viewpoints and methodological strategies, the cognitive capabilities of four-year-old children. A second purpose is the development of curriculum programs suggested by the research findings.
Importance, need, or justification:	Although there are many approaches to fostering the cognitive growth of four-year-olds, it is unclear why these programs are successful (not successful). Specifically, at the present time there is an insufficient understanding of cognitive processes that produce generalizable behaviors. This program is an effort to further understanding of developing cognitive processes.
Method, strategy, or design:	The overall program strategy involves three stages, two of which occur simultaneously. Initially, studies will be conducted which will be relatively narrow in scope; that is, they will involve one or two variables. Procedurally, these studies will use laboratory methods as well as direct observations of behavior in relatively well defined classroom situations. Second, as techniques become apparent from the research studies, they will be developed and used in small groups (N = 5) and thus, if feasible, larger groups (N = 10-18). Second stage studies are also currently underway where the procedures are defined by the teachers; that is, the teachers are now engaged in defining objectives and developing materials and methods for attaining these objectives. The Quantitative Concepts project is also

Method, strategy, or design (Continued)

in stage two. The third stage involves a more generalized large scale field testing of the more promising techniques. At the present time, the Language Development project is consistent with the phase three definition.

Characteristics of the sample:

The projects involve children from the Laboratory Nursery School. These children are representative of the middle-middle class and will attend kindergarten in the same school district. A second large population used in this program are representative of the "inner-city."

Expected end products of results:

The following end products are anticipated:

1. Technical research reports
2. Relatively precise descriptions of the cognitive competencies and deficiencies of four-year-old children
3. A field-tested program for fostering language development
4. A field-tested program for teaching the mathematical concepts of equivalence, greater than; and less than
5. A field tested program for fostering perceptual-motor development
6. A description of what cognitive abilities are fostered by various nursery school classroom materials.

Evaluation procedures:

These are described in the description of the program: Longitudinal Evaluation.

Relationship to other center projects and center focus:

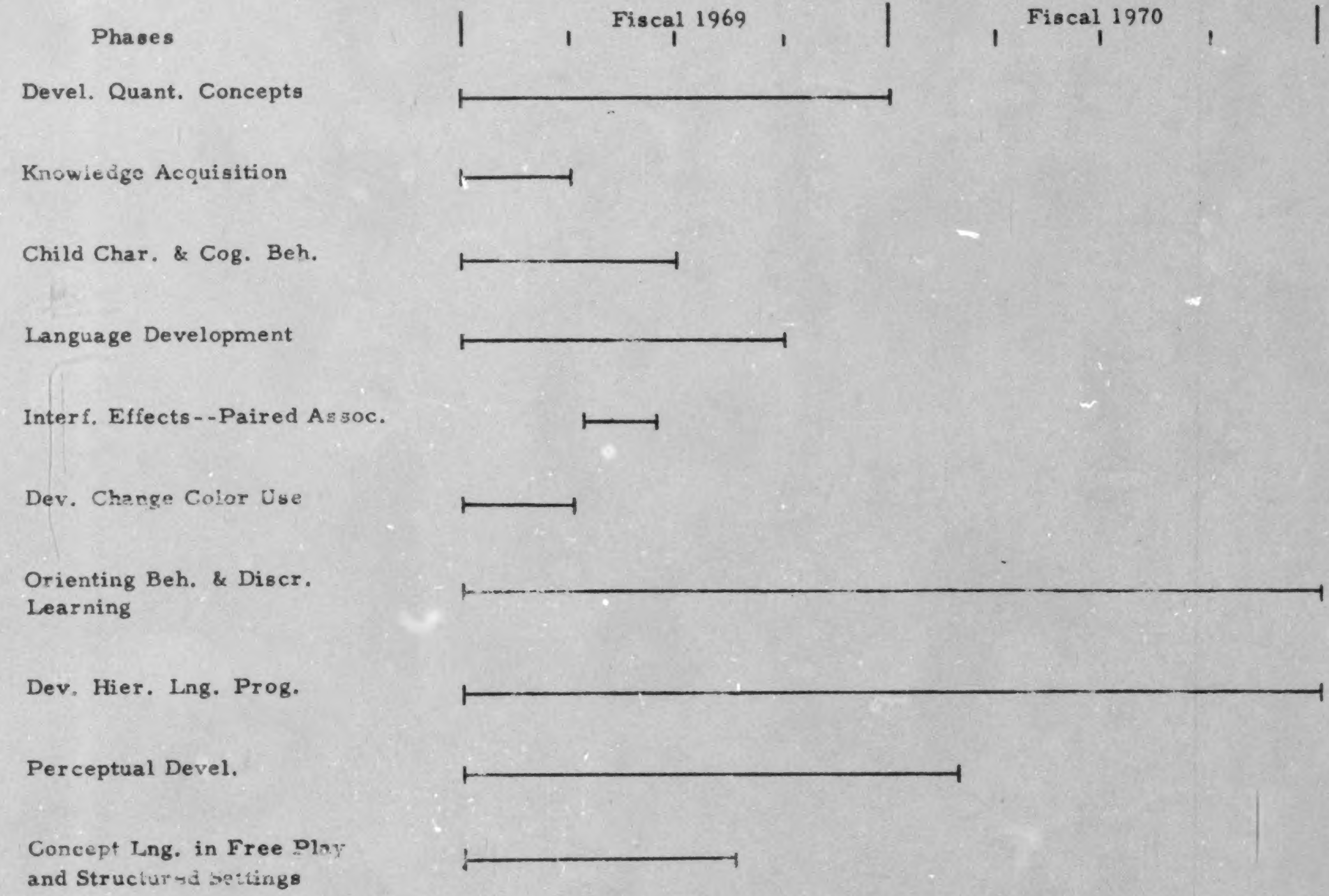
The Longitudinal Evaluation Program derives much of its emphasis from this program. Thus knowledge gained from the research projects will be incorporated into the specific evaluation techniques. These techniques in turn will be used to evaluate the classroom programs. The Social-Emotional Program is also related to this program. Specifically, the projects in this program will develop procedures for reducing the fear-producing qualities of certain aspects of the learning situation.

Flow chart, time schedule: Attached.

Linkages within program: Each of the projects is concerned with a different class of cognitive behavior and with somewhat different strategies for fostering development. The relationships among the projects exist because each relies on appropriate orienting behavior, understanding of concepts transmitted through language, and specific cognitive characteristics of the children.

SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

Program: Analysis of Cognitive Behaviors



SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

S-AA

Title:	Concept Learning in Free Play and Structured Settings
Principal Staff:	W. J. Meyer, L. Hayweiser
Purpose, objective, or goals:	To determine how children make use of selected materials designed to foster cognitive development. A second objective is to examine the attributes of teacher-directed lessons; that is, given teacher-defined objectives and procedures, what aspects of the stimuli are salient to the children.
Importance, need, or justification:	The results of this project should provide answers to two fundamental questions in the area of early childhood education: 1. What use do four-year-old children make of preschool materials when their behavior is not directed. 2. What attributes of the stimulus situation are relevant to children in teacher-planned lessons. These questions are not only relevant to the "structured-unstructured program" controversy but are also related to the issue of how best to design a classroom and a lesson.
Method, strategy, or design:	This project relies entirely on observational procedures. Since there are few guidelines to direct observations, extensive videotapes are being made of the children in the situations. From these tapes behavioral checklists will be derived permitting more flexible observational procedures.
Characteristics of the sample:	The Laboratory Nursery School children are the primary subjects in this project.

Expected end products of results:	A detailed description of how children behave in structured and unstructured learning situations. In addition there will be videotapes demonstrating particularly salient features of the situations.
Evaluation procedures:	In effect, this project is an evaluation of typical classroom procedures.
Relationship to other center projects and center focus:	This project could provide clues about stimulus saliency for the Quantitative Concepts, the Language Development, and the Hierarchial Learning Programs.
Flow chart, time schedule:	This project should be completed during Fiscal 1969.

SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

S-AB

Title:	Hierarchial Learning Program
Principal Staff:	W. J. Meyer, D. Goldhaber, D. Goldstein
Purpose, objective, or goals:	To develop a hierarchial learning program focusing on perceptual-motor behavior. Specifically, antecedent behaviors will be identified, followed by the development of intervention procedures.
Importance, need, or justification:	Although perceptual-motor behaviors (performance on the Bender-Gestalt) are felt to be crucial to reading, the antecedents of these behaviors are not understood. This project is an attempt to identify these antecedents and create techniques for fostering their development.
Method, strategy, or design:	Initially, the strategy involves working intensively with individual children. Behavioral situations will be created for them and their observed responses will serve as a preliminary basis for identifying required capabilities. The next step involves the definition (arm chair) of a possible hierarchy and testing it. Continued modifications will be made until a stable set of responses is achieved. After this is accomplished, intervention procedures for each hierarchial level will be defined.
Characteristics of the sample:	Preschool and kindergarten children of both middle-middle and lower-class status.
Expected end products of results:	A set of intervention procedures related to a hierarchial set of behaviors required for mature perceptual-motor behavior.
Evaluation procedures:	Field testing of the hierarchy will be conducted followed by testing the remedial programs in the classroom situation.

Relationship to other center projects and center focus:	This project may have a relationship to the Orienting Behavior work in that it is highly probable that adequate attentional behavior is an antecedent of perceptual-motor behavior.
Flow chart, time schedule:	Through Fiscal 1970.

SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

S-AC

Title:	Orienting Behavior and Discrimination Learning
Principal Staff:	W. J. Meyer, D, Massari
Purpose, objective, or goals:	To examine the visual scanning strategies used by preschool children in problem solving situations.
Importance, need, or justification:	There is ample reason to believe that the attentional behaviors of children play a significant role in the learning process. This aspect of behavior is largely unexplored at least with respect to subject variations and stimulus variation. This project will focus on these variables.
Method, strategy, or design:	Initial work in this area will involve laboratory procedures and the systematic examination of single variables (subject or stimulus).
Characteristics of the sample:	The Laboratory Preschool and Kindergarten children.
Expected end products of results:	Technical reports to be published in various professional journals.
Relationship to other center projects and center focus:	This project is particularly related to the Quantitative Concepts project because it involves visual scanning and at least two stimulus attributes (member and form).
Flow chart, time schedule:	This project will continue through Fiscal 1970.

SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

S-AD

Title: Development of Quantitative Concepts

Principal Staff: John W. Wilson and Edward Uprichard

Purpose, objective, or goals: This study is designed to determine the most efficient learning sequence appropriate for preschoolers in learning three set concepts necessary for the development of number: equivalence; greater than; and less than. The efficiency of a particular learning sequence is to be evaluated in terms of:

a. Time it takes to learn the three concepts to criterion
b. The amount of transfer this learning facilitates.

Importance, need, or justification: There is an ever increasing demand in the field of education for the development of a structured program in mathematics appropriate for preschoolers. The present study is the first in a series of experimental studies planned by the principal investigators to determine what the scope and sequence of such a program might be. The current problem, as previously stated, places emphasis on the learning sequence of three set concepts necessary for the development of number. What past research on these three concepts has been conducted has been for the most part normative studies. Among the findings of these studies have been the notion that three concepts rank themselves in order of difficulty greater than equivalence less than. These past normative studies have also indicated very few children at the kindergarten age have adequate control of these concepts. From a mathematics point of view the order of the concepts by definition should be equivalence greater than less than. The mathematical principals involved

Importance, need, or justification (Continued)

would also indicate little difference in the level of difficulty between the greater than and less than concepts. Because there appears to be a conflict with respect to the appropriate sequence of these concepts between what the normative studies have shown and what the definitions of mathematics would imply. The principal investigators for this study believe that the question of the appropriate sequence must be tested experimentally. Consequently, in the design section below you will see that all six possible sequences are to be tested experimentally.

Results:

The results of this study should have significance not only for the practical considerations of building appropriate curricula for the preschooler kindergarten years, but also should have theoretical implications for those like Piaget who are concerned with the development of number concept and the conservation of number in particular with young children.

Method, strategy, or design:

Subjects. A random sample of three- and four-year-old children attending the Liverpool Laboratory Nursery School, Liverpool, New York, afternoon session, will be selected and randomly assigned to one of eight groups, six experimental groups and two control groups in the following manner:

Experimental and Control Groups

I	- EGL	- 4
II	- ELG	- 4
III	- GEL	- 4
IV	- GLE	- 4
V	- LEG	- 4
VI	- LGE	- 4
VII	- Control (C_T)	- 4
VIII	- Control ($C_{\bar{T}}$)	- 4

$N = 32 \quad n_j = 4$

Method, strategy, or design (Continued)

In the above chart the capital letters designate the particular concept being taught E = equivalence, G = greater than, and L = less than. The sequence of the letters represent the different treatment groups. For example, group 1 EGL will receive instruction on equivalence then greater than then less than. Control group seven will be administered all tests administered the experimental groups. Control group eight will be administered only the post-test.

Treatments.

1. Instruction four days per week, one half-hour per day, last day each week a criterion test will be administered.
2. All instruction will be in the afternoon.
3. No fixed time for each experimental group. When 75% of the subjects in each group reach criterion on a given concept they will proceed to the instruction on the next concept.
4. Our criterion test will consist of two kinds of levels: (1) concrete and (2) iconic. These tests will be administered on each Friday of each instructional period. Criterion test the acquisition of all three concepts equivalence, greater than, and less than.
5. The instructional program utilizes a collection of set boards developed by the principle investigators prior to this project. The set boards represent numbers two through seven. The children will receive instruction on sets representing 3, 4, 5, and 6. Activities such as bouncing a ball, constructing sets, etc., will be utilized in conjunction with the set boards.
6. There will be two teachers (X and Y), no teacher will instruct the same experimental group on two consecutive days.
7. The teachers have no knowledge of the experimental design nor the hypothesis of this study.

Method, strategy, or design (Continued)	8. Instructional days for each of the groups will be rotated from week to week so that no group will receive instruction at the same time period for two consecutive weeks. The design of this study permits us to be subjected to analysis of variance on a fixed model one way to strength of association tests to post-comparisons to a variety of descriptive statistics.
Characteristics of the users or sample:	Given above.
Expected end products of results:	We expect to determine which of the six sequences is most effective in the development of these concepts and on the basis of this finding plan the development of the next set of concepts. We also expect to do a partial replication of this study with children of lower socio-economic groups then that represented by the Liverpool Nursery School sample.
Evaluation procedures:	Described above.
Relationship to other center projects and center focus:	This study is illustrative of this center's study to construct curricula for preschoolers by systematic development of subcomponents of the curricula. It is hoped over a period of years these components from a variety of curricula areas can be combined to provide guidance for the overall curriculum for preschool children. It is also hoped in the future that studies can be designed to investigate the interaction of subject variables such as the impulsivity-reflectivity dimensions being studied throughout the National Laboratory with task variables such as being investigated in the present study. As indicated above, for example, the investigators of the present study hope to do a partial replication of this study with lower socio-economic subjects.

SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

S-AE

Title: Perceptual Development

Principal Staff: D. W. Smothergill, S. Grossman, W. Harris, and F. Hughes.

Purpose, objective, or goals: Chart perceptual development in selected areas (e.g., spatial abilities, short-term memory, response to object orientation) and test the implications of some theories of perceptual development.

Importance, need, or justification: Basic research on abilities supposed to be basic to intellectual functioning; there is currently a lack of guidelines to direct perceptual educational programs.

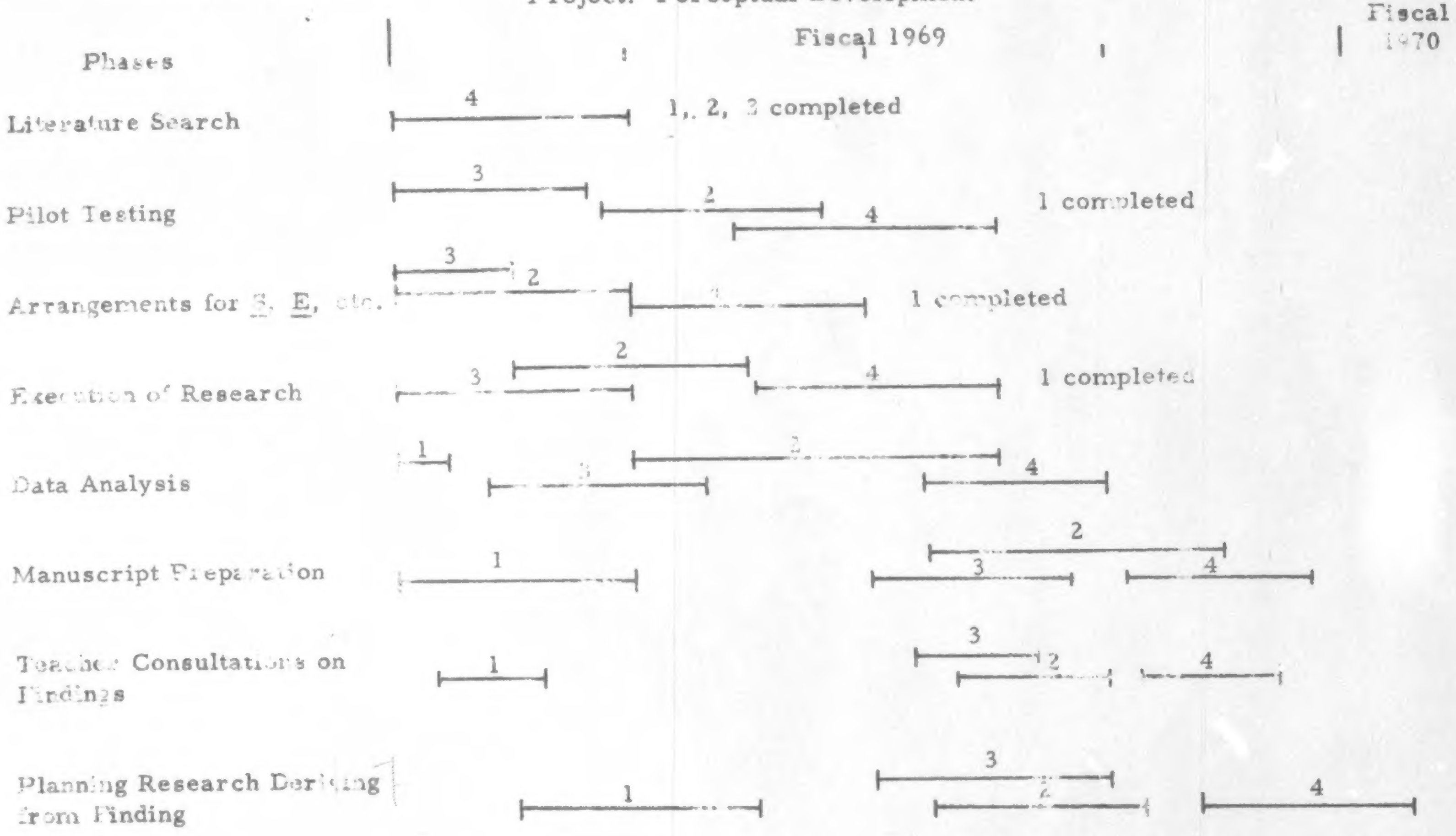
Method, strategy, or design: Several studies are in various stages of completion. Designs of some are as follows:

1. Contrast the learning of a difficult two choice discrimination under two conditions: verbal satiation on distinctive names which have been associated with the discriminanda versus a similar condition lacking satiation. Preschoolers are subjects. The satiation technique is used to test contrasting theories of perceptual learning.
2. Assessment of preschooler's ability to use a map; exploration of methods to teach map reading. Both naturalistic and laboratory techniques are used. Emphasis upon understanding the components of spatial abilities as inferred from various map reading tasks. Preschoolers are subjects.
3. Contrast learning strategies of preschoolers under conditions of presence of both discriminanda versus sequential presentation forcing use of memorial abilities. Directed at the question of how what is learned is affected by the learning situation.

Method, strategy, or design (Continued)	4. Developmental changes in memory. Tachistoscopic presentation of grids of letters/numbers to children in middle childhood. S reports what he saw immediately. Synthesis of two theories of perception suggests that one kind of memory should become poorer with increasing age.
Characteristics of the sample:	Described above.
Expected end product of results:	Publication of research findings and integration with work of others. Suggestions for a theory of perceptual development.
Evaluation procedures:	Criticism by colleagues of design of research and interpretation of results. Success of individual studies in answering the questions each is aimed at. When appropriate, suggestions from research findings will be made to teachers at the Liverpool Preschool. It is anticiapted that in some instances findings will suggest changes in content presented to the children, in others, the techniques of content presentation may be changed.
Flow chart, time schedule:	Attached.

SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

Project: Perceptual Development



(Numbers on horizontal lines refer to experiments cited in "Method")

SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

S-AF

Title:	Child Characteristics and Cognitive Behavior
Principal Staff:	V. C. Hall, Norma Reali, Lydia Seggev, R. Salvi
Purpose, objective, or goals:	To determine the antecedents of the conceptual tempo construct and examine the effects of several manipulations on reflective and impulsive Ss.
Importance, need, or justification:	While educators continually talk about the importance of individual differences, it is often difficult to list what dimensions of difference are of importance and what effects specific teacher behaviors have on Ss differing on these characteristics. The present project is trying to determine the importance of conceptual tempo and the effects of different situations on Ss differing on this characteristic.
Method, strategy, or design:	1. Two measures of conceptual tempo will be used. The first, (MFF), will be used to identify the reflective and impulsive Ss. The second, (DRT), will be used to elicit measures of expectancy of success and decision time under various conditions of success and failure. Expectancy of success will be measured using a ten-inch line with 5 demarcations, labeled one through five. Decision time will be measured to the half-second. A completely balanced, repeated measures design will be utilized. Eight experimental groups will be used with reflective Ss assigned to groups 1-4 and impulsive Ss assigned to groups 5-8. Figure 1 shows the assignment of experimental conditions to the groups. In

Method, strategy, or design (Continued)

groups 1 and 5, Ss will arbitrarily meet with success on trials 1-6 and failure on trials 7-12. The procedure is reversed for groups 2 and 6, with trials 1-6 meeting with failure and trials 7-12 with success. Groups 3, 4, 7 and 8 will serve as control groups with groups 3 and 7 meeting with 12 trials of failure and groups 4 and 8 with 12 trials of success.

Figure 1

Reflective			
Trials		1-6	7-12
	1	S	F
	2	F	S
	3	F	F
	4	S	S
Impulsive			
Trials		1-6	7-12
	5	S	F
	6	F	S
	7	F	F
	8	S	S

2. The second study will be a repeat of the study described in the last final report with the following changes:
    a. The groups will be balanced with regard to sex
    b. All times will be kept in the self-paced condition
    c. The slow time will be lengthened to 8 seconds
    d. All Ss in the two schools will be run regardless of their classification--i.e., the fast and right as well as the slow and wrong on the MFF.

Characteristics of the sample:

1. All third graders of three suburban schools will be t tested and then those male subjects above the median in time

Characteristics of the sample (Continued)

and below in error will be classified as reflective while those below the median in time and above in errors will be classified as impulsive. These latter two groups will then be used in the second part of the study.

2. All second graders in two schools will be used.

Results:

1. We should know the effects of expectancy of success and failure on reflective and impulsive male Ss.

2. We will know whether the results reported earlier will replicate as well as what the effects are on the different sexes and the Ss not classified as reflective and impulsive using the double median split.

Evaluation procedures:

1. A 4 (conditions of success and failure) X 12 (trials the repeated measure) repeated measures analysis of variance will be used to determine the change in decision time as a result of success and failure, the change in expectancy as a result of success and failure.

   A 2 (reflective-impulsive) X 2 (conditions of success and failure) X 12 (trials the repeated measure) repeated measures analysis of variance will be used to determine differences between reflective and impulsive Ss.

2. Four 2 (sex) X 3 (presentation rate) analysis of variance will be performed to determine the effects of the different presentation rates on the different conceptual tempos. In addition t tests will be run on the self-paced data.

Relationship to other center projects and center focus:

This research in addition to being related to this Center's interest in personality characteristics of young children can also

Relationship to other center projects and center focus (Continued)

be looked upon as being related to the work by John Rhetts (under Henry Ricciuti) at Cornell. We have spent long hours together discussing how our efforts might be coordinated, and I think his report will clarify how the studies complement each other. For instance, his use of the Gibson figures and varying the rate of presentation.

Flow chart, time schedule:

1. The data gathering part of the study has been completed and the cards have been punched. The programs are being written and the analysis should be completed in January. The final project report will hopefully be completed in the next report.
2. The data gathering will begin in January and completed by February 28. Analysis and write-up should be completed in March and April.

SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

S-AG

Title:	Language Development--Language Training Program (includes interference effects in paired associate learning and assessment of language behavior)
Principal Staff:	V. C. Hall, Michael Mery, Richard Salvi
Purpose, objective, or goals:	The purpose of this study is four-fold. 1. To test the effects of a language curriculum developed by the authors 2. To develop and test different methods of assessing language development 3. To look at how training effects different subject populations (i.e., lower and middle socio-economic class) 4. To learn more about the disadvantaged child.
Importance, need, or justification:	Almost everyone seems to agree that disadvantaged children are behind in language development, but the nature of this defect and methods for remedying it are still largely unknown. This project is a first attempt at remedying this problem.
Method, strategy, or design:	A language curriculum will be developed which will in the experimenters' eyes remedy some of the hypothesized shortcomings in language development with disadvantaged. This program will be instituted in two city schools using children judged by their teachers to be behind in language development. The program will last six weeks and a post test only design will be utilized. The teachers will be the experimenters.
Characteristics of the sample:	The sample will consist of 36 males from a school in a lower-class area and 36 males from a school in a middle-class area.

Results:	We should have an evaluated curriculum and new knowledge about the language habits of the disadvantaged.
Evaluation procedures:	The evaluation procedures we plan to use now include the [illegible] (1965) task, parts of the ITPA, a paired associate task (Jensen and Rohwer, 1965; Gahagan and Gahagan, 1968) and an A-B, A-C interference paired associate design.
Relationship to other center projects and center focus:	This fits into the curriculum development and assessment parts of the Center.
Flow chart, time schedule:	By the end of January, we will have finished our curriculum. In February and April, we will teach the children. In May, we will give the post test [illegible] analyze the results during the summer.

SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

S-AH

Title:	Interference Effects in Paired Associate Learning
Principal Staff:	V. C. Hall, Michael Mery
Purpose, objective, or goals:	As mentioned in the proposal, various Es have found a lack of interference effects with young children (Loomis and Hall, 1967; Hall, in press; and Koppenaal, Krull and Katz, 1964). It has been suggested that the development of interference effects is due to increased facility with language. This project, therefore, is designed to test this hypothesis.
Importance, need, or justification:	We will learn more about the basic learning processes, as well as test a language evaluation technique.
Method, strategy, or design:	Ss going through the language training program will be given an A-B, A-C paradigm to see if they have more interference than appropriate controls.
Characteristics of the sample:	Ss will be those in the language training study and their controls.
Results:	A new language evaluation technique and new knowledge about the development of interference.
Evaluation procedures:	Analysis of variance using errors in comparing the experimental Ss with the controls.
Relationship to other center projects:	Relates to the evaluation projects.
Flow chart, time schedule:	To be given at the end of the training project.

SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

S-AI

Title: Knowledge Acquisition--Matching and Form Discrimination Abilities in Young Children

Principal Staff: V. C. Hall, R. Salvi

Purpose, objective, or goals: The purpose of this investigation is to determine and describe the antecedents necessary to facilitate the performance of young Ss in copying and matching tasks used to assess perceptual abilities.

Importance, need, or justification: Work by Huttenlocher and other researchers in the area of perceptual development has inferred that the inability of young children to perform well on matching tasks is due to perceptual defects or lack of maturation. The present Es on the basis of earlier work in this area (Caldwell and Hall) propose that the problem may well be in the poor communication between the E and S. At the very least the present Es feel that some attempts at training should be made before attributing these problems to other basically non-remedial causes. It is felt that this study will help develop better assessment and training procedures as well as more knowledge about perceptual development through attempts at training.

Method, strategy, or design: The initial strategy will involve developing several procedures through task analysis which should facilitate performance on the matching tasks used by Huttenlocher. If these fail, then several training procedures will be developed based on a task analysis of the parts of the task which the young Ss fail. Training will then be conducted and evaluated.

Characteristics of the sample: Ss will include preschoolers from R&D Center nursery school.

Expected end products of results:

Publication of research findings and integration of this work in the areas of assessment, curriculum development and perceptual development will be undertaken.

Evaluation procedures:

In general the evaluation procedures will replicate those used by other researchers (i. e., Huttenlocher) as well as those developed through the task analysis.

Flow chart, time schedule:

The task analysis and pilot work will take place in February and March. The actual studies will be carried out in April and May. The analysis and write up will take place in May and June.

5

SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

S-AJ

Title:	Parental Influence on Color Preference of Four-Year-Olds
Principal Staff:	M. F. Andrews, J. T. Anderson
Purpose, objective, or goals:	To develop a valid color preference test which would allow for an indication of 1. Color preference 2. No color preference 3. More than one collor preference and specifically to determine the degree of parental (mother and/or father) influence on children's color preference.
Importance, need, or justification:	It is believed that consideration for the education of the very young is based primarily on abstract disciplines involving socially shared symbols and concepts, and that their aesthetic education is being overshadowed. The proposed study should determine the influence of parents on four-year-olds in an area of subconscious prescription such of color preference. It will also test the credibility of previous color preference tests.
Method, strategy, or design:	The procedure involves a study of preceding color preference tests and the designing of a color preference test which would 1. Measure the preference of a color or colors or indicate the lack of a color preference 2. Measure value preference and to select approximately 85 families (mother, father, and child) in which neither of the males have a color deficiency; and make a comparative study.
Characteristics of the users:	Personnel from other Regional Laboratories interested in the relationship in learning and color preference, and creativity and social influences.

Expected end products of results:	Preparation of an article for "Color Engineering" and other journals which deal with preprimary children; a report for the International Symposium on "Creativity and the Preprimary Child," Summer 1969.
Evaluation procedures:	Comparative study with other color preference tests, and other four-year-old groups. A comparative study of the colors, used in drawing and (presymbolic) painting activities.
Relationship to other center projects and center focus:	Internal collaboration with other preprimary children's color activities and preprimary school's motivational environments. The influencial idea should be beneficial to art activities curriculum planning.
Flow chart, time schedule:	Review of the literature pertaining to color preference, possible influences at the preprimary level, February-June, 1967. Designing of Color Preference Test, preparation of colored wood blocks, plastic matrix, June-August, 1967. Administration of color deficiency (sons) and Color Preference Tests to children, September, 1967 to February, 1968. Administration of color deficiency (fathers) and Color Preference Tests to parents, January-May, 1968. Compilation, designing charts, writing, June-November, 1968. Preparation of Final Report, December, 1968 to February, 1969.

SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

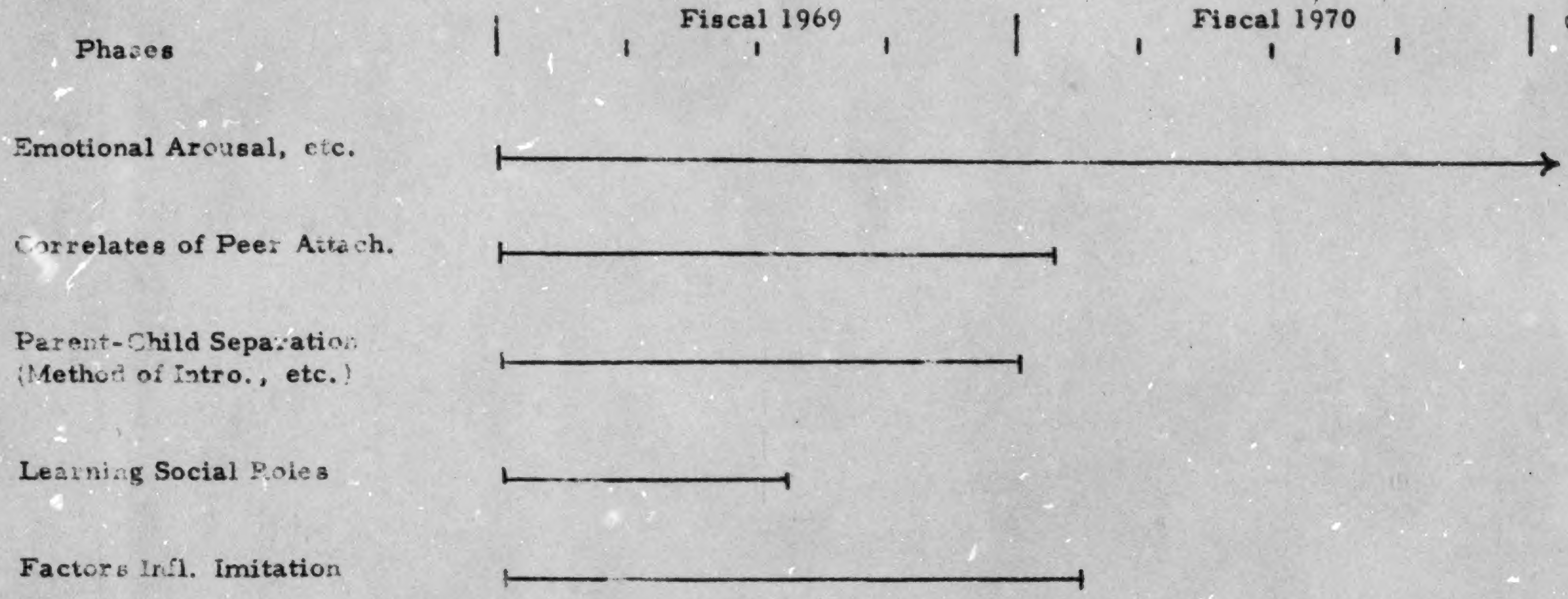
S-B

Title:	Social Emotional Development
Principal Staff:	C. Schwarz, W. J. Meyer, D. Smothergill
Purpose, objective, or goals:	To study the social and emotional responses of children in the nursery-school, children in the context of school situation, and to explore procedures which may foster social-emotional growth.
Importance, need, or justification:	An important aspect of child growth and development involves the ability to cope with emotional states and to learn appropriate social responses and social rules. The projects in this program focus on the variables influencing these developmental changes and examine a procedure for fostering social-role learning. Much of this work examines largely unexplored domains of child development and should contribute to understanding of this component of behavior.
Method, strategy, or design:	The general program strategy is to assess the variables that stimulate emotional, as measured by physiological monitoring systems, responses. The experimental situations are pseudo-realistic and are designed to arouse emotional responses. As these variables are identified, an effort will be made to discover variables which will modify emotional reactions. One project will assess, using observational procedures, the relevance of "dress-up corners" in the learning of social roles.
Characteristics of the sample:	The children employed in this project come from both the lower- and middle-classes. The potential users of the program outcomes would certainly include early childhood educators as well as those individuals concerned with understanding the social-emotional development of young children.

Expected end products of results:	Many of the final products derived from this program will be in the form of technical reports in appropriate professional journals. One of the projects (Parent-Child Separation at Preschool) may indicate that current practices of focusing on separation may be inappropriate.
Evaluation procedures:	These are described in the program section "The Longitudinal Evaluation Program."
Relationship to other center projects and center focus:	The projects may provide an awareness of how emotional reactions to school situations can be avoided, thus permitting greater opportunities for cognitive growth.
Flow chart, time schedule:	Attached.
Program findings:	The projects being conducted by Dr. Schwarz are concerned with varying aspects of variables influencing affective arousal. Each of the three projects will provide complementary data for the other projects and a more complete understanding of emotional reactions among young children. The project directed by Drs. Meyer and Smothergill have no direct relationship to each other or to those of Dr. Schwarz.

SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

Program: Social Emotional Development



SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

S-BA

Title: Factor Influencing Imitation Behavior

Principal Staff: D. W. Smothergill, H. L. Cock

Purpose, objective, or goals:

1. To attempt to disassociate two aspects of imitation learning usually considered together: selection by the child of whom he observes as a model, and determinants of whether the observed activities of others will be performed.
2. To attempt stricter formulation and tests of theories of imitation.

Importance, need, or justification: Social learning theory has substituted imitation for the traditional concept of identification. Accepting this substitution, it is necessary to specify the factors determining both whom the child selects to observe as a model and whether the child incorporates the observed activities of others into his own behavior pattern.

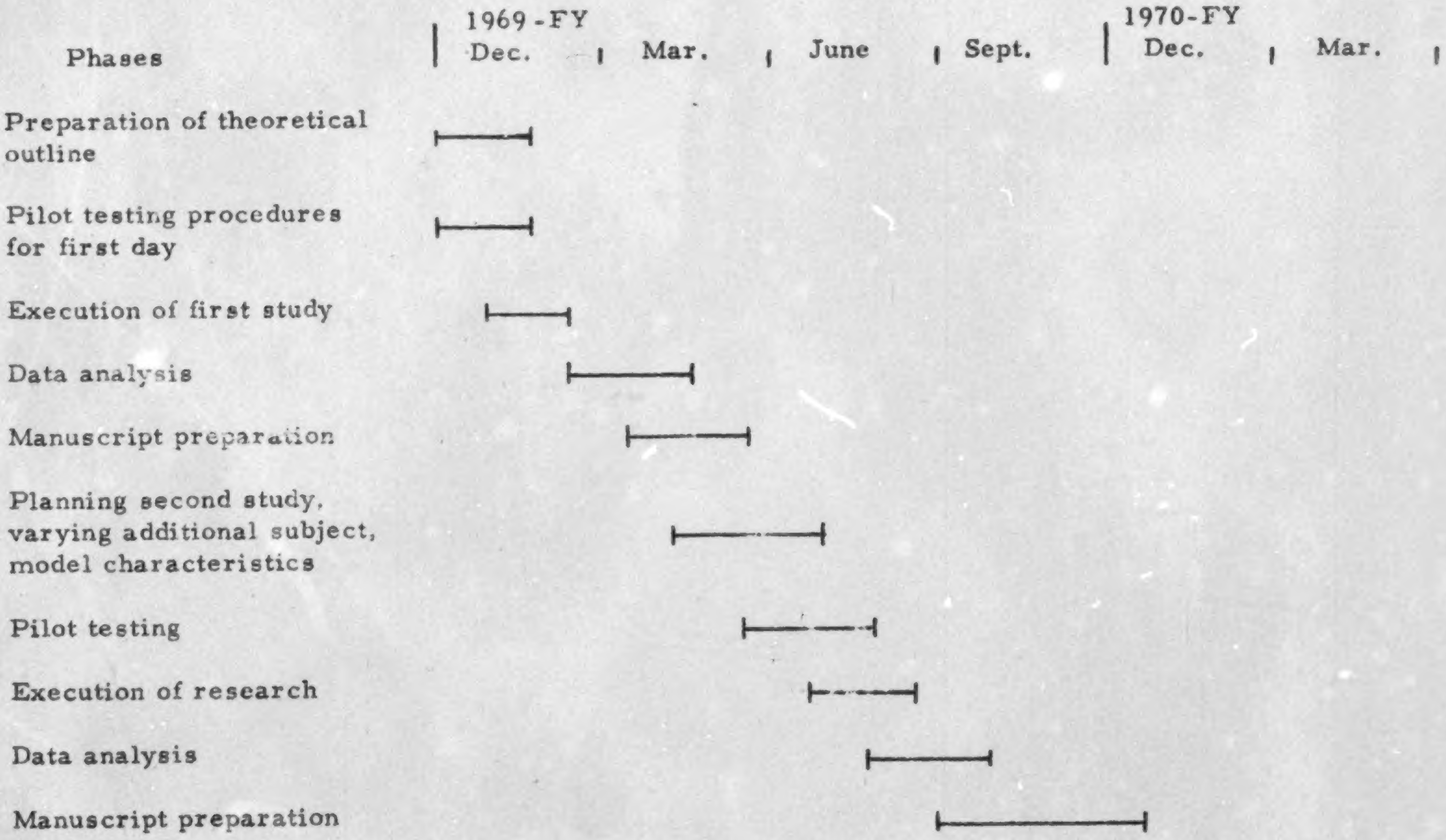
Method, strategy, or design: A variety of imitation learning situations will be used. A child will be placed in a situation with another person (potential model) in such a way that he may or may not pay close attention to the behaviors of the other person. After the model has performed, half the children will be asked to duplicate the behaviors of the model. The other half of the sample will be asked to perform a task identical to that performed by the potential model. The "spontaneous imitation" of this group will be observed.

Characteristics of the sample: Black and white children ranging from 3 to 8 years old. Black and white, male and female models. Friends of Ss as well as strangers as potential models.

Expected end products of results:	A better understanding of the mechanisms involved in imitation learning.
Evaluation procedures:	Criticism by colleagues on an informal level; submission of manuscripts for publication; success in generating new questions about imitation learning.
Flow Chart, time schedule:	Attached.

SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

Project: Factor Influencing Imitation Behavior



SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT
IN EARLY CHILDHOOD EDUCATION

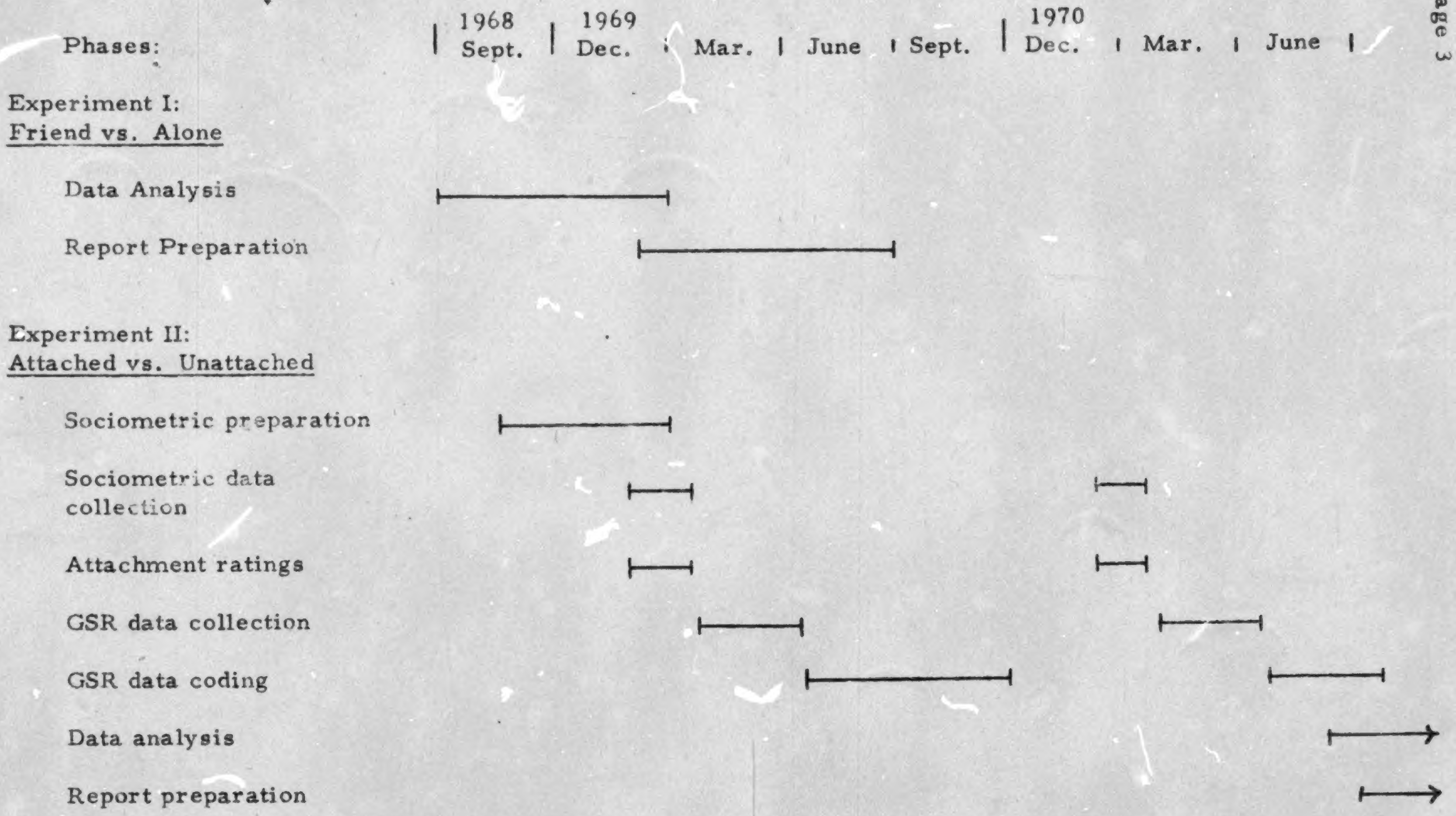
S-BB

Title:	Emotional Arousal and Social Context
Principal Staff:	J. C. Schwarz, Wm. Friedenberg, F. Highley
Purpose, objective, or goals:	To investigate experimentally the influence of social variables on emotional arousal in children. More specifically, this program of related studies is designed to test hypotheses derived from attachment theory. The first hypothesis tested and supported was that children would show greater magnitudes of emotional response (GSR) to startle stimuli when alone than when in the presence of an attached peer (close friend). Having demonstrated the sensitivity of this psychophysiological measure to the influence of social context, we plan to use it in further tests of the influence of peer attachment on emotional arousal. A comparison will be made of the emotional responsiveness to startle stimuli in a novel environment of children who have close friends and those who have no close friends.
Importance, need, or justification:	This research will help to specify some of the emotional consequences of social isolation and of the failure to develop social attachments to peers. Ultimately, information about variables which influence emotional arousal has relevance for the learning process, since it has been repeatedly demonstrated that there is a curvilinear relationship between emotional arousal and efficiency of learning. If it is demonstrated that the socially attached child is less disrupted by novel stimulation and also experiences a greater reduction of stress in the presence of his peers than does the social isolate, a clear case can be made for the inclusion of activities in the preschool curriculum which foster the development of social relationships in all children.

Method, strategy, or design:	The subjects will be drawn from the Center Nursery. Peer preferences will be assessed by a pictorial sociometric procedure (currently under development) over a two year period. The strength of peer-attachments will be rated by nursery school teachers. The sample will be subdivided into high and low peer-attachment groups. Within each group children will be randomly assigned to a 1. Preferred-peer condition 2. A non-preferred-peer condition 3. A stranger-peer condition. All children will listen through ear phones to a tape recording of randomly spaced sound effects while a continuous record of skin conductance is made. Social context will be varied by the presence of a preferred peer, a non-preferred peer, or a strange peer. The dependent variable (magnitude of GSR to the sound effects) will be analyzed in a 2 x 3 x 7 analysis of variance design with repeated measures on the last factor (Attachment Status x Social Context x Trials).
Characteristics of the users:	Investigators from other R&D Centers in early childhood education. Researchers in child development.
Expected end products of results:	Preparation of a research report for publication in the developmental psychology literature and circulation to investigators at other R&D Centers who are working in the area of social-emotional development.
Evaluation Procedures:	See "Method" above.
Relationship to other center projects and center focus:	This study relates to other research projects on emotional development and social attachment being conducted by the author at this center and to the work on emotional responses in younger subjects of Henry N. Ricciuti at the Cornell Center and of Danial Freedman at the Chicago Center.
Flow chart, time schedule:	Attached.

SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

Project: Emotional Arousal and Social Context



SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

S-BC

Title: Methods of Introduction to Nursery School

Principal Staff: J. C. Schwarz, R. Wynn, W. Friedenberg, F. Highley

Purpose, objective, or goals: Many preschools use some method of gradual introduction of the child to the novelty of the classroom situation. These procedures are based more on theory and practical experience than any controlled investigation of their efficacy. In the hope of providing an empirical basis for procedures in this area, we are conducting an experimental investigation of different procedures.

Importance, need, or justification: Many educators and parents feel that the child's introduction to preschool can color his attitude toward school far into the future. Just how important the first few days may be is probably a debatable question. Nevertheless, if procedures can be found which will significantly reduce the trauma some children seem to experience, they are sure to have some salutory effect not only upon the child but also upon his parents, teachers, and classmates as well.

Method, strategy, or design: The 108 children enrolled for the Center Nursery School in the Fall of 1968 were divided into two groups on the basis of prior group experience and, further, into those enrolled for morning versus afternoon classes. Equal numbers of males, females, experienced, and inexperienced children were randomly assigned to classes of 18 each. Striving to maintain a completely balanced design, children were further assigned on a random basis to the four combinations of two treatment factors, each of

Method, strategy, or design (Continued)

two levels, creating a 2 x 2 x 2 x 2 analysis of variance design with approximately six subjects per cell. One treatment factor was the occurrence or nonoccurrence of a 20 minute previsit of the mother and the child to the nursery school in the week prior to beginning preschool. The other treatment factor was a 20 minute stay by the mother with the child in the classroom on the first day of school versus the mother's bidding the child bood-by at the door upon arrival for the first day of nursery school. Thus the resulting combinations were as follows: Previsit--Mother Stay; Previsit--Mother Go; No Previsit--Mother Stay; No Previsit--Mother Go.

Ratings were made of the child's reaction to the departure of the mother, the mother's separation style, and during the last 20 minutes of the one hour session, of the adaptiveness of play behavior, motility, and comfort in the situation. The same variables were rated in a follow-up one week later.

Characteristics of the users:

Curriculum planners in preschool programs; nursery school teachers; and child development specialists.

Expected end products of results:

Preparation of a report for publication in the child development literature. A nontechnical report for a preschool education publication.

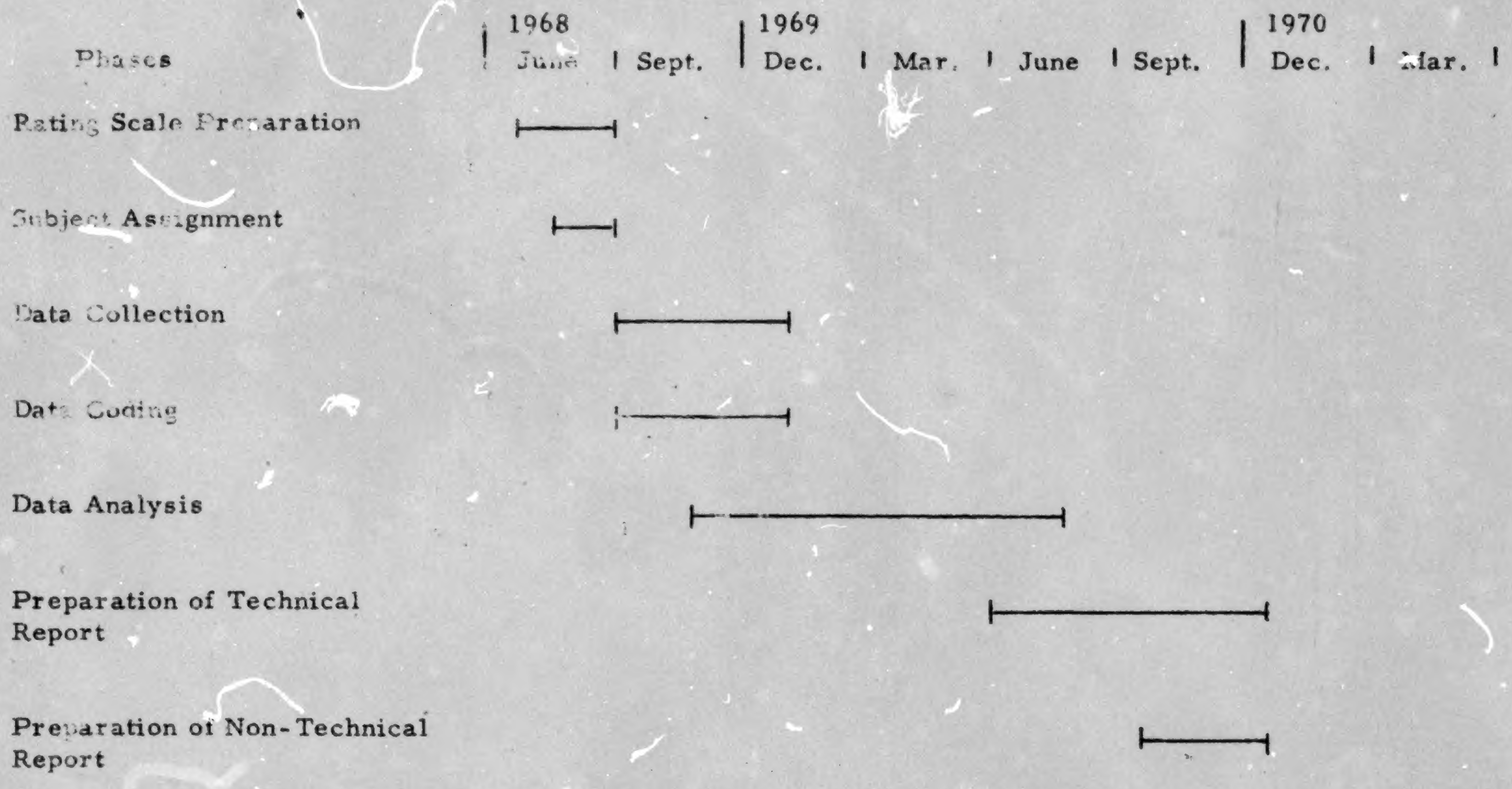
Evaluation procedures:

Although the full analysis of data is not completed, analysis of the major dependent variables indicates that prior group experience facilitates separation from the mother; however, much to our surprise, the methods of introduction to the preschool did not significantly affect any of the dependent variables, including ease of separation from the mother.

Relationship to other center projects and center focus:	Several of the measures employed in this study will be used in the study of correlates of peer attachment status. There would seem to be some merit in replicating this investigation at another center with a preschool population which differs in socioeconomic status from this predominately middle-class sample.
Flow chart, time schedule:	Attached.

SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

Project: Methods of Introduction to Nursery School



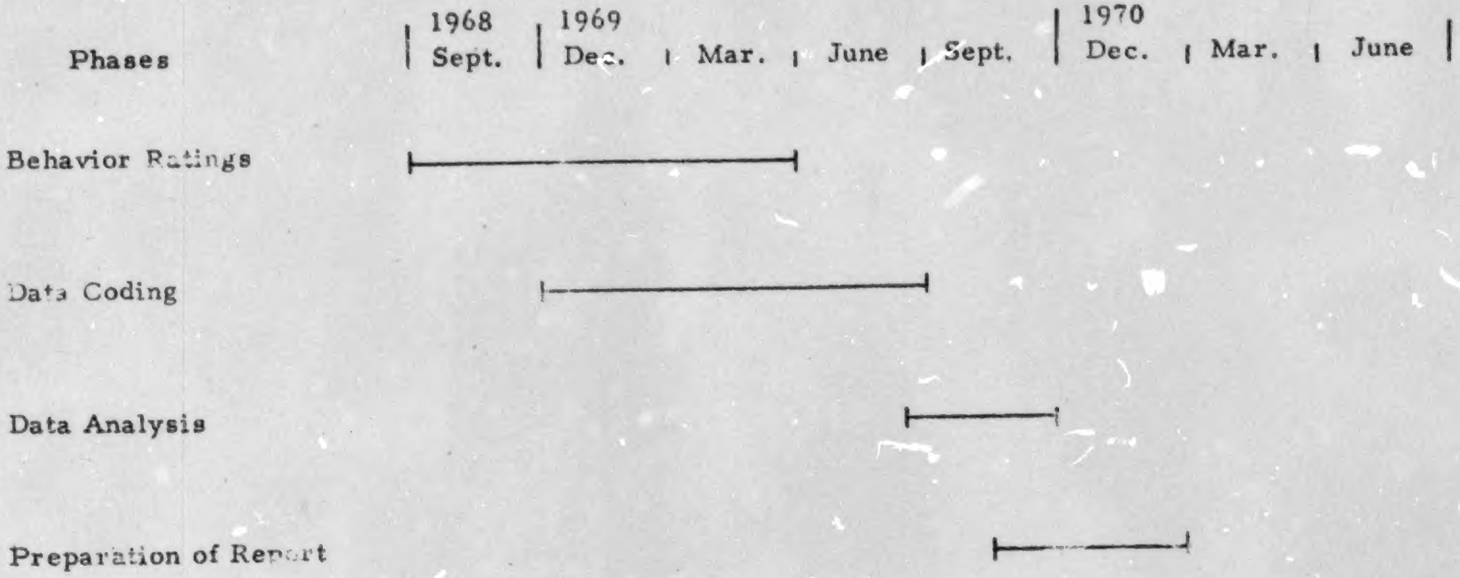
SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

S-BD

Title:	Correlates of Peer Attachment Status
Principal Staff:	J. C. Schwarz, W. Friedenberg
Purpose, objective, or goals:	To investigate the social behavioral characteristics of children in the nursery school situation who fail to develop social attachments to peers after several months of attendance.
Importance, need, or justification:	The work of Harlow on social development in primates indicates that the development of affectional bonds to peers may be crucial to the development of a normal repertoire of social behaviors. An investigation of the behavioral correlates of peer attachment in humans will provide evidence of the generality of Harlow's postulated peer affectional system and of its dynamic consequences in children. These findings will bear upon the importance in preschool curricula of programs which foster the development of social attachments among children.
Method, strategy, or design:	Ratings of the strength of peer attachments will be made by the head teacher and assistant teachers for all of the children in each class of the Center Nursery School. Ratings of strength of peer attachments will be correlated with the following variables: Ease of separation from the mother on the first day of school, initial and subsequent ratings of comfort in school, motor impulse control, perceptual-motor coordination, social competency ratings by the parents, sociometric status in nursery class, and history of peer associations prior to nursery school.
Characteristics of the users:	Child development specialists. Curriculum planners in early childhood education.

Expected end products of results:	Preparation of a research report for publication in the child development literature. Circulation of the report to other investigators with an interest in early social-emotional development and to curriculum planners at other R&D centers.
Evaluation procedures:	Wherever possible the reliability of the measures employed in the correlational analysis will be assessed.
Relationship to other center projects and center focus:	Several of the behavioral measures involved in this project will be or have been employed in other projects at the Center. For example, in the longitudinal evaluation program, in the study of emotional arousal and social context which also investigates peer attachment status, and in the introduction to nursery school project.
Flow chart, time schedule:	Attached.

SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION
Project: Correlates of Peer Attachment Status



SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

S-BE

Title:	Learning Social Roles
Principal Staff:	W. J. Meyer, L. Hayweiser
Purpose, objective, or goals:	To examine the use children make of the widely used "dress-up corner."
Importance, need, or justification:	Almost every nursery school classroom contains a "dress-up corner" for the purpose of fostering social-role and/or sex-role development. Despite the wide use of this activity, it has not been ascertained how children perceive the activity. Indeed, there is little or no systematic evidence describing children's behavior while in the situation.
Method, strategy, or design:	This project is relying entirely on observational procedures. Initially, video-tape recordings are being made from which a behavioral check-list will be developed. If there is any indication that, in fact, the children are making "appropriate" use of the activity, we will then observe behavior outside of the situation.
Characteristics of the sample:	The children in this project are from the Laboratory Nursery School. These are middle-middle class children.
Expected end products of results:	A description of the typical behaviors of children in the "dress-up corner." In all probability this material will be published in an appropriate professional journal.
Evaluation procedure:	In effect, the project is an evaluation of the activity. No separate evaluation procedures seem appropriate.
Flow chart, time schedule:	This project should be completed during Fiscal 1969.

SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

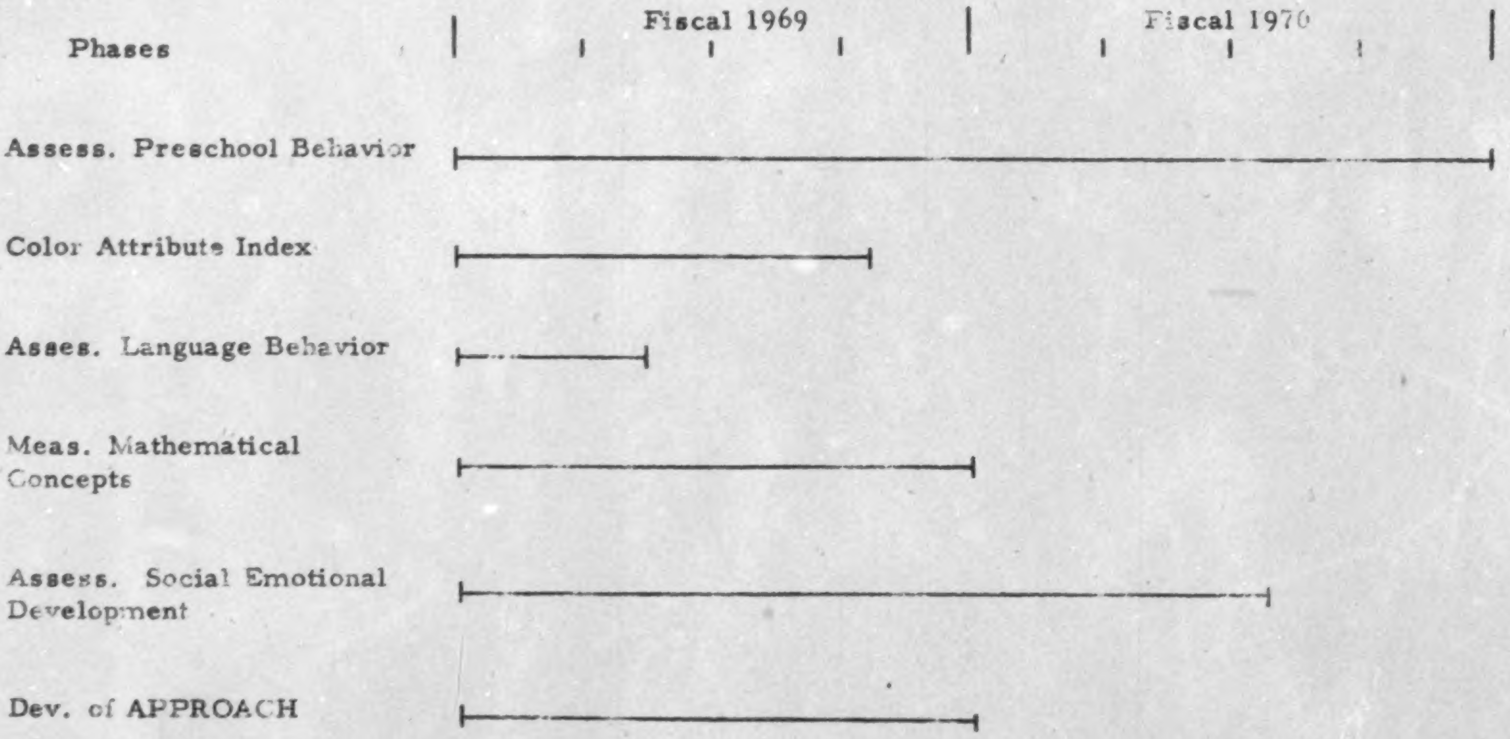
S-C

Title:	The Longitudinal Evaluation Program
Principal Staff:	W. J. Meyer, M. Andrews, V. Hall, J. Wilson, C. Schwarz, B. Caldwell
Purpose, objective, or goals:	To develop new assessment procedures and to evaluate the impact of the various intervention procedures.
Importance, need, or justification:	The intervention procedures used in the various projects are somewhat unique, thus requiring somewhat different assessment procedures. There is also reason to believe that current techniques for assessing cognitive development are inadequate in many respects. This program will attempt to improve methods for assessing both cognitive and social-emotional development.
Method, strategy, or design:	A variety of methods are being employed by the individual investigators as they seem appropriate to the particular problem. These strategies and methods are described in the individual project resumes.
Characteristics of the sample:	The evaluation procedures for the Language Project are being developed with a sample of "inner city" children. The APPROACH procedure has been largely used with the Laboratory Nursery School children. At this time, the measure of Mathematical Concepts has been used with the lab population but during Fiscal 1969, it will be used with inner-city youngsters. The Preschool Achievement Test has been used with diverse populations. Thus, in the long run, this program should produce techniques applicable to diverse populations.

Expected end products of results:	Procedures for assessing the cognitive and social-emotional development of children. These procedures will be pre-tested and, where appropriate, norms will be available.
Evaluation procedures:	Appropriate psychometric procedures for establishing reliability and validity will be employed.
Relationship to other center projects and center focus:	Clearly, each of the projects in this program relate directly to all other projects. With the exception of the APPROACH project, each evaluation project derives directly from a specific project in the other two programs.
Flow chart, time schedule:	Attached.
Linkages:	Three of the projects (Preschool Achievement Test, Language Assessment, and the Measure of Mathematical Concepts) concerned with related aspects of cognitive growth. The Color Attribute Index may possibly relate to the cognitive measures, but the theoretical relationships have not yet been defined.

SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

Program: The Longitudinal Evaluation Program



SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

S-CA

Title:	Assessing Preschool Behavior
Principal Staff:	W. J. Meyer, Dale Goldhaber
Purpose, objective, or goals:	To develop an instrument which samples behaviors hypothesized to be related to reading readiness.
Importance, need, or justification:	Currently available assessment techniques produce general omnibus scores which reveal little about the strengths and weaknesses within individuals. In order to intervene with children in a more meaningful manner, it is necessary to identify specific weaknesses and then prescribe specific remedial measures.
Method, strategy, or design:	Examination of the research literature to determine the possible behavioral capabilities related to reading. This procedure will be followed by the development of items and then field testing. Validation studies will be conducted using a longitudinal strategy.
Characteristics of the sample:	Initial item development will involve the Laboratory Nursery School. As we gain knowledge about the items, it will be field tested using kindergarten-age children.
Expected end products of results:	A field tested instrument that will indicate strength and weaknesses of children relative to reading readiness.
Evaluation procedures:	The usual psychometric procedures for determining reliability and validity will be run.

Relationship to other center projects and center focus: It is anticipated that the content of the items will include quantitative concepts, language usage (prepositional clauses), and orienting (attentional) behavior. Thus, knowledge gained from other projects should feed directly into the development of items.

Flow chart, time schedule: This project will continue through Fiscal 1970.

SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

S-CB

Title:	Color Attribute Index
Principal Staff:	M. F. Andrews
Purpose, objective, or goals:	Develop a Color Attribute (sophistication) Index for the purpose of measuring children's color attributes (use of color beyond the basic hues).
Importance, need, or justification:	Learning is related to color, i.e., wherever color is an attribute. The Color Attribute Index, we presume, may give us some measurement of one's value judgments, intelligence, and personality characteristics.
Method, strategy, or design:	Basically the three variables of color-hue, value, and chroma will be used to calculate the individual's color notation. Each color used will then be measured against the formula: $\text{HUE}\,\frac{\text{value}}{\text{chroma}}$ or $\text{Red}\,\frac{4\text{ value}}{16\text{ chroma}} =$ 64 x the color area = C. A. Index The formula will be applied to one's color use regardless of the number of colors. A composite score based on 100% will give us one's Color Attribute Index (C. A. I.).
Characteristics of the users:	Internal-Senior investigators from the National Laboratory Research and Development Centers. External-other agencies concerned with color character and personalities.
Expected end products of results:	A Color Attribute Index which may be used by consumers of color relevant to interior decoration, clothing, and other consumer products.

Evaluation procedures: A comparative study of children's paintings as well as professional artists such as Rembrandt, Stuart Davis, Georges Braque, and their personalities.

Relationship to other center projects and center focus: A comparative study of personality traits and color attributes; intelligence and color attributes; form-interests and color attributes.

Flow chart, time schedule: Designing of Color Attribute Index, February, 1967 to March, 1968

Testing of Color Attribute Index on four-year-olds painting, April-June, 1968

Testing of Color Attribute Index on professional artists' paintings--Rembrandt, Braque, Davis, June-September, 1968

Writing Final Report, February-September, 1969.

SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

S-[illegible]

Title: Development of APPROACH

Principal Staff: B. M. Caldwell, A. S. Honig, V. M. Pasad, M. Speno

Purpose, objective, or goals:

1. To increase the efficiency of the APPROACH coding system by improving techniques of coding directly from tape-recorded behavior samples rather than typescripts.
2. To implement procedures for improving and subsequently maintaining a high level of reliability among APPROACH observers who will collect records in a variety of ecological settings, including school, home, and laboratory.
3. To measure the correspondence between maternal verbal report and APPROACH observational data as a function of setting and situation in which the mother-child interaction occurs.
4. To investigate the potentialities of APPROACH to yield sequential interpersonal analyses.
5. To analyze APPROACH fall and spring classroom records for all the children in our program.
6. To compare APPROACH records of the winter and spring control groups with their matched center children.

Importance, need, or justification:

A prime requirement in the application of naturalistic observational techniques is the maintenance of interobserver and intercoder reliability over time.

Also, an essential question to be asked of any method designed to study human behavior is how closely the data agree with data collected by some other procedure and what are the parameters of such agreement.

Method, strategy, or design:

Persons other than those who have worked on the development of the APPROACH system will be trained in the coding procedures and in the making of APPROACH records.

Verbal report of child-care behaviors obtained in a structured interview with mothers by means of the IPLET (Implicit Parental Learning Theory) questionnaire will be compared with APPROACH observational data of maternal behaviors with 2-1/2 year old children in a variety of interactional situations.

Results and Evaluation procedures:

This program should aid in the identification and control of variables mitigating against the maintenance of high intercoder reliability.

It should increase:

1. Knowledge of the ways in which mothers adjust their behavior in response to a child's ongoing behavior
2. Attention to how such adjustments affect the correspondence between observational and verbal report data.

Relationship to other center projects and center focus:

Refinement of this naturalistic observation coding instrument makes APPROACH potentially more useful as an assessment procedure in a wide variety of studies of social and cognitive interactions.

SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

S-CD

Title: Methods of Assessing Social-Emotional Development

Principal Staff: J. C. Schwarz, F. Highley, W. [illegible]berg

Purpose, objective, or goals: One of the major handicaps in studying personality development and adjustment in young children is the dirth of validated assessment instruments. The purpose of this project is to examine and gather evidence relevant to the validity of measures relating to coping and mastery. A brief situational test for assessing individual differences in the disposition to cope with mildly aversive stimuli will be explored.

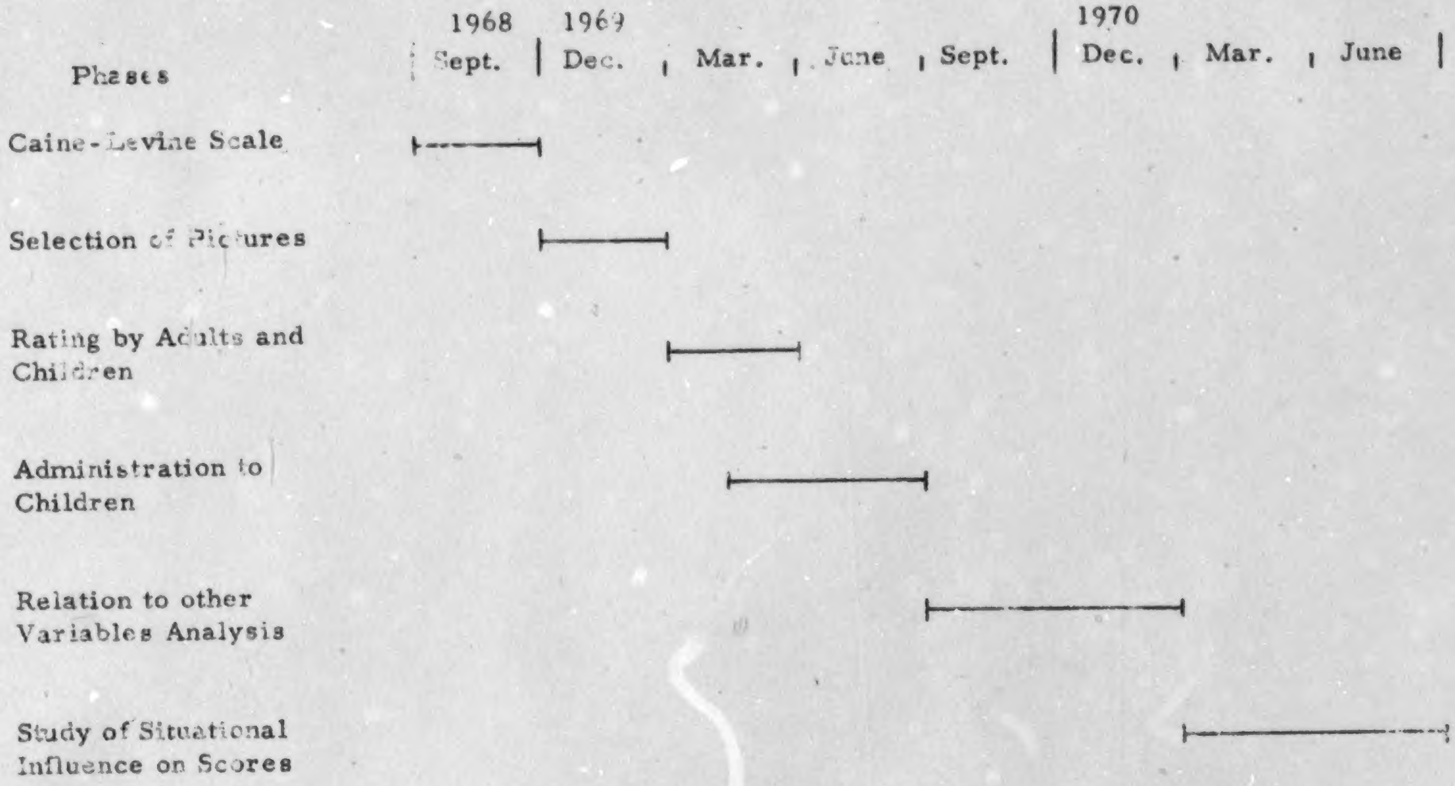
Importance, need, or justification: When a teacher labels a child emotionally immature, she may be responding to any number of behavioral parameters: short attention span, failure to interact socially with others, tendency to have emotional outbursts when thwarted, failure to persist in the face of difficulty. Underlying some, but not all, of these behaviors may be a common dimension; namely, a low disposition to cope with, approach, and master mildly aversive situations. It is assumed that this is a behavioral disposition which has some generality across situations and which can be learned under the appropriate program of training and reinforcement. Valid tests of this disposition would be a valuable addition to our limited repertoire of assessment devices for young children.

Method, strategy, or design: Development of a situational test of one aspect of coping behavior will involve the following steps:

1. Preliminary selection of a set of photographs, some of which are

Method, strategy, or design (Continued)	affectively neutral, some positive, and some mildly aversive or frightening to young children. 2. Rating of the potential aversiveness by adults who are familiar with the behavior of young children. 3. As a further check, rating the pictures for "scaryness" by 4 and 5 year olds. 4. Coping scores will be obtained by having children rate the pictures for "liking" on a 3-point scale. The coping score will consist of the total "liking" rating of pictures rated as "scary." 5. Scores will be correlated with the Caine-Levine Scales of social competency, and teacher ratings of classroom behavior. 6. The independence of this construct from other personality traits will be examined. 7. The sensitivity of the situational test of coping to the influence of the social context of administration will be examined.
Characteristics of the users:	Investigators engaged in program evaluation. Researchers in social-emotional development in children.
Expected end products of results:	If the validational efforts prove successful, the end product will be a situational test of coping disposition with normative data for preschool populations. Publication of a research report.
Relationship to other center projects and center focus:	The development of coping disposition measures will provide assessment of a variable of theoretical importance with regard to its relationship to social-emotional parameters under investigation in other projects at the center; for example, the studies of learning social roles and response to beginning nursery school.
Flow chart, time schedule:	Attached.

SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION
Project: Methods of Assessing Social-Emotional Development



SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

S-CE

Title:	Assessment of Language Behavior
Principal Staff:	V. C. Hall, Michael Mery, Richard Salvi
Purpose, objective, or goals:	To develop and validate language evaluation instruments.
Importance, need, or justification:	The need for evaluation has been the focus of several Steering Committee Meetings as well as being mentioned with increasing frequency in the literature.
Method, strategy, or design:	At the end of the language curriculum, several instruments will be presented to the Ss involved.
Characteristics of the sample:	All S in the language training curriculum.
Expected end products of the results:	Several validated language evaluation instruments.
Evaluation procedures:	The performance of the experimental group will be compared with the control group.
Relationship to other center projects and center focus:	Part of the evaluation program.
Flow chart, time schedule:	The instruments will be presented in April.

SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

S-CF

Title: Measuring Mathematical Concepts

Principal Staff: John W. Wilson, Edward Uprichard

Purpose, objective, or goals:

Phase I of this study is arrived at developing a set of performance tasks which will indicate a preschool child's acquisition of the following set concepts: set, equivalence sets; symetric and transitive properties of the equivalence relation; the greater than and less than relations on sets; the order relation on sets; and the ability to construct an equivalence class. The tasks are to require a minimum of verbal behavior by child or tester. The tasks are to be individually administered. The tasks are to be hierarchially arranged. Each concept will be represented by a minimum of four tasks.

Importance, need, or justification:

In preparation for our experimental study described elsewhere in this report, the investigators reviewed all tests known to them which were designed to assess the concepts of interest. The investigators found them severely lacking in many respects. Most had only one item sampling a given concept. Many tests were paper-pencil and group administered. No test was found which had a task involving the minimum of three sets used in the way needed to test the transitive property. It became apparent that a great many programs now in use in schools were found on the results of studies which used what the present investigators considered inadequate evaluation procedures. Hence, quite independent of the investigators experimental studies, the development of more adequate evaluation should prove of use to all investigators in this area. Moreover, several of the tasks or equivalence should serve well in studies on conservation of number.

Method, strategy, or design:	Approximately 100 four and five-year-old children representing low to middle socio-economic groups were administered the tasks in our pilot studies. These pilot studies indicated a quite clear order of difficulty of the task not only across several concepts but within a given concept. For example, on the equivalence tasks we found an order of difficulty that each pattern represents. This order even appeared related in an hierarchial manner, i.e., a child could not succeed in tasks involving pattern C unless he had succeeded on pattern A and B. This ordering held across socio-economic and age groups. The investigators are utilizing this ordering in their instructional program described in another section of this report. On the basis of this pilot work, tasks have been selected for each of the concepts being taught in the experimental study. The investigators will further assess the value of the tasks as they are used as described in the experimental study.
Characteristics of the users:	Tasks for Phase I are designed for use with nursery, kindergarten and early first grade age children.
Expected end products of results:	As indicated under "Purpose" above.
Relationship to other center projects and center focus:	As with the experimental studies being conducted by the present investigators, it is hoped the task will be studied in connection with subject variables such as impulsivity-reflectivity dimensions being studied by other center investigators.

SYRACUSE CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

S-D

Title: Liverpool Laboratory Nursery School

Principal Staff: R. Wynn, N. Smothergill, J. Banowit, C. Ragonese, E. Wilkie, K. Starke

Purpose, objective, or goals: To provide a nursery school facility for the research and development activities of the Center staff. In addition, the nursery school is housed in a building provided by a local school district (Liverpool, N. Y. School District) and, therefore, services children who will continue in the same school district. This arrangement permits longitudinal studies and will allow us to explore the impact of preschool education on kindergarten educational programs.

Importance, need, or justification: In order to conduct the necessary basic research program and implement new educational programs, it was necessary to establish a preschool facility under our direct administrative control. It is now possible to define our own strategies and procedures for preschool programs and have sufficient supervision to ensure quality teaching.

Method, strategy, or design: The preschool facility and the teaching staff support the majority of research and program development occurring in our Center. As noted in the other program resumes, these studies range from laboratory methods to large group (N=18) teaching methods. Thus, the teaching staff is able to help in the development and implementation of classroom programs as they evolve from the varied research programs.

Characteristics of the sample: The nursery school is comprised of three classrooms which are used for morning and afternoon sessions. Each class contains

Characteristics of the sample (Continued)	18 children, all of whom were between CA 4-2 and 4-9 when school started. The children are drawn from each of the elementary school areas and are thus representative of the school district. The children are slightly above average intellectually (M_{IQ} = 107; S. D. = 16.2) and represent a broad range in terms of socio-economic status.
Expected end products of results:	Two major products will come from this support facility: 1. New knowledge and pretested preschool programs 2. Knowledge about the impact of preschool programs on the children and on the educational programs of the primary grades.
Relationship to other center projects and center focus:	The school facility supports almost all the other programs in the Center.
Flow chart, time schedule:	This facility will continue at least through Fiscal 1970.
Linkages of activities within the program:	See "Method" section above.